

# AMERICAN BUILDER

A SIMMONS-BOARDMAN PUBLICATION

Vol. 47.

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Published on the first day of each month by American Builder Publishing Corporation. *Chairman of Board*, Edward A. Simmons; *President*, William A. Radford; *Treasurer*, John T. De Mott; *Secretary*, Roland D. Radford; *Editor*, Bernard L. Johnson; *Eastern Editor*, Charles G. Peker; *Associate Editors*: P. W. Hanna, E. B. Quigley, L. E. Arent; *Advertising Staff*: Delbert W. Smith, C. R. W. Edgcumbe, L. H. Reich, O. H. Sutter, Cecil W. Blashill, J. J. Dubro, R. E. Clement, Sam Campagna, R. H. Morris.

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**SUBSCRIPTION RATES**—One year, United States, Canada, Mexico, and U. S. Possessions, \$2.00; six months, \$1.00; single copy, 35 cents. Foreign countries, \$4.00.

**PROTECTION FOR OUR READERS**—The publishers of the AMERICAN BUILDER reserve the right to decline any advertising they believe is detrimental to the interest of its readers; to edit advertising copy and to change or eliminate any statements that reflect injuriously or cast discredit upon other building products, machinery, equipment, supplies or tools.

Be sure in writing to advertisers to say: "I saw your advertisement in the AMERICAN BUILDER."

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**MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS  
AND OF THE ASSOCIATED BUSINESS PAPERS**

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**MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS  
AND OF THE ASSOCIATED BUSINESS PAPERS**

# You can easily equal these savings on your job

What a DeWalt will do for you is best shown by what it has done for others. Here are a few facts from everyday jobs . . . "In 1½ hours the operator cut 12 stair horses out of 2" planks." . . . "Two men cut 683 3" x 10" joists, 16' long, with a fire cut on one end and notched on the other, in 8 hours." . . . "The operator dadoed 600' of base for 8 rooms, which came too large, in 3 hours rather than send it back and wait for new." . . . "In a 6 house job he mortised 54 doors for locks in 1 hour and 10 minutes."

That's the kind of work you can get from a DeWalt Wonder Worker. Send for further information about DeWalt savings and arrange for a demonstration on your job.

## DeWalt Products Corporation

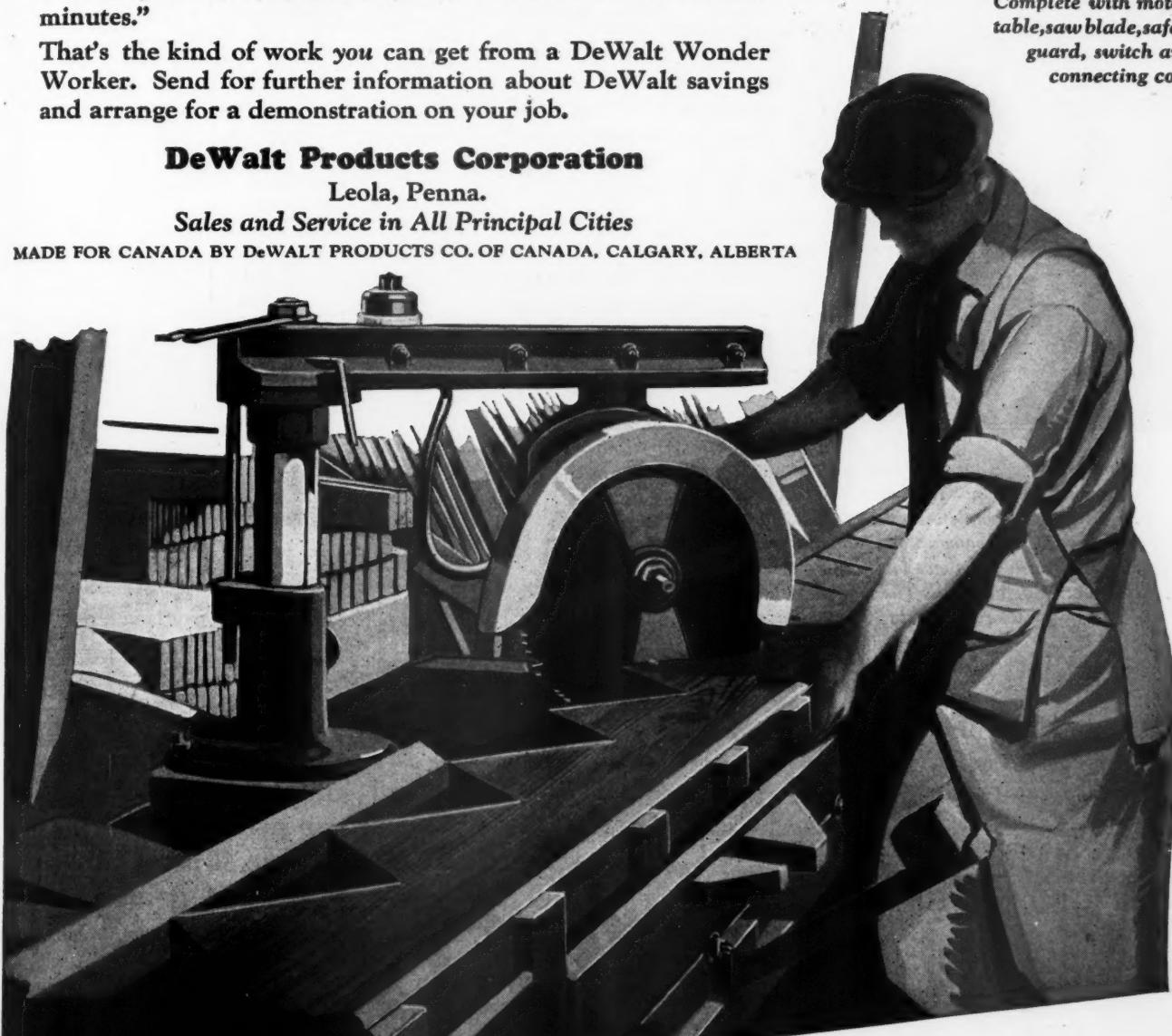
Leola, Penna.

Sales and Service in All Principal Cities

MADE FOR CANADA BY DeWALT PRODUCTS CO. OF CANADA, CALGARY, ALBERTA

PRICES  
**\$195.00**  
and Up  
Complete  
F.O.B.  
Factory

Complete with motor,  
table, saw blade, safety  
guard, switch and  
connecting cord



# DEWALT

## Wonder Worker

The Economy Wood Worker

DeWalt Products Corp.  
764 New Holland Ave.  
Leola, Penna.

Please send me full particulars of the DeWalt Wonder Worker—the all-around wood working machine.

Your Name \_\_\_\_\_

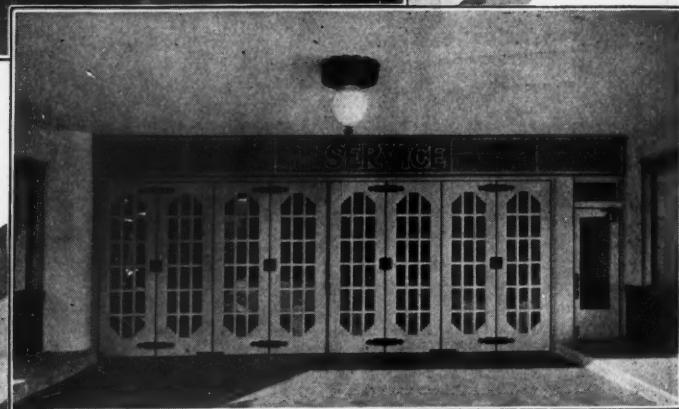
Firm Name \_\_\_\_\_

Address \_\_\_\_\_

# These 8 doors open and



*Capitol Garage, Kansas City's largest, NEVER keeps a patron waiting. Only R-W equipment assures such service. These doors close weather tight. They open INSIDE so ice and snow NEVER hinder operation. A simple adjustment allows for swelling or shrinking of doors. No center posts. The same R-W advantages for doorways up to 30 feet wide.*



# Slidetite

with

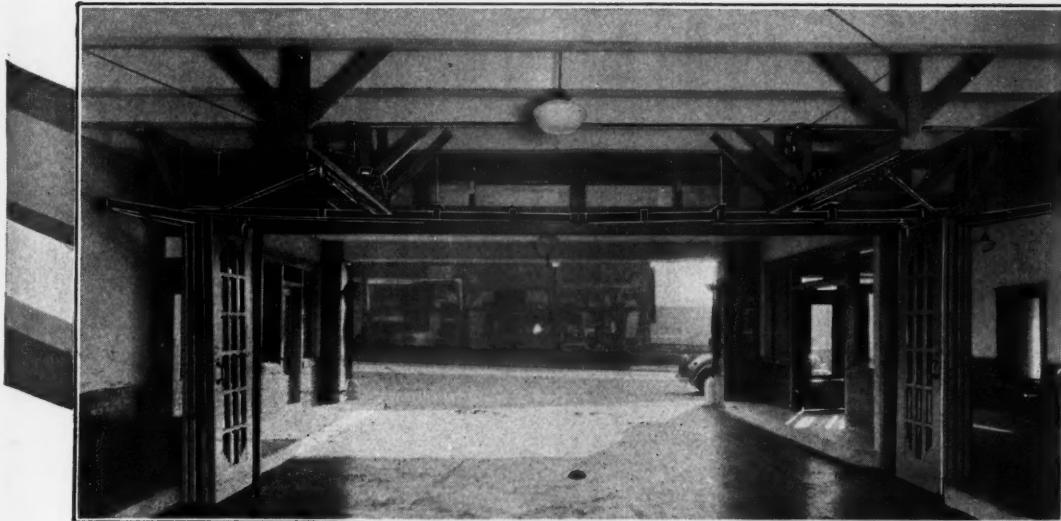
## AUT-O-DOR

*Electric Operators*



*"Quality leaves its imprint"*

# close with clockwork precision in this 22 foot unobstructed opening



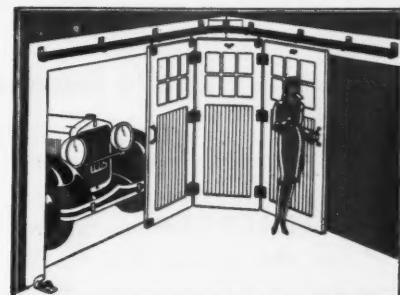
This entire installation—doors, hardware and power—is R-W equipment. The four entrance doors or the four exit doors operate independently—or all eight doors may be opened and shut simultaneously—from any part of the garage or office, by simply pulling a cord or pushing a button, several of which are conveniently located.

Smooth, quiet, certain, trouble-free operation is assured by many *exclusive* engineering features which belong to the R-W Aut-O-Door Electric

Operator, Slidetite hardware and R-W laminated panel doors.

The low first cost and low final cost of a complete R-W installation are a revelation to garage-owners who have been annoyed by troublesome, unreliable, noisy, jerky, ordinary door operators and hardware. R-W equipment never fails!

Whatever your doorway problem may be, R-W equipment will solve it. Write for Garage Door Catalog.



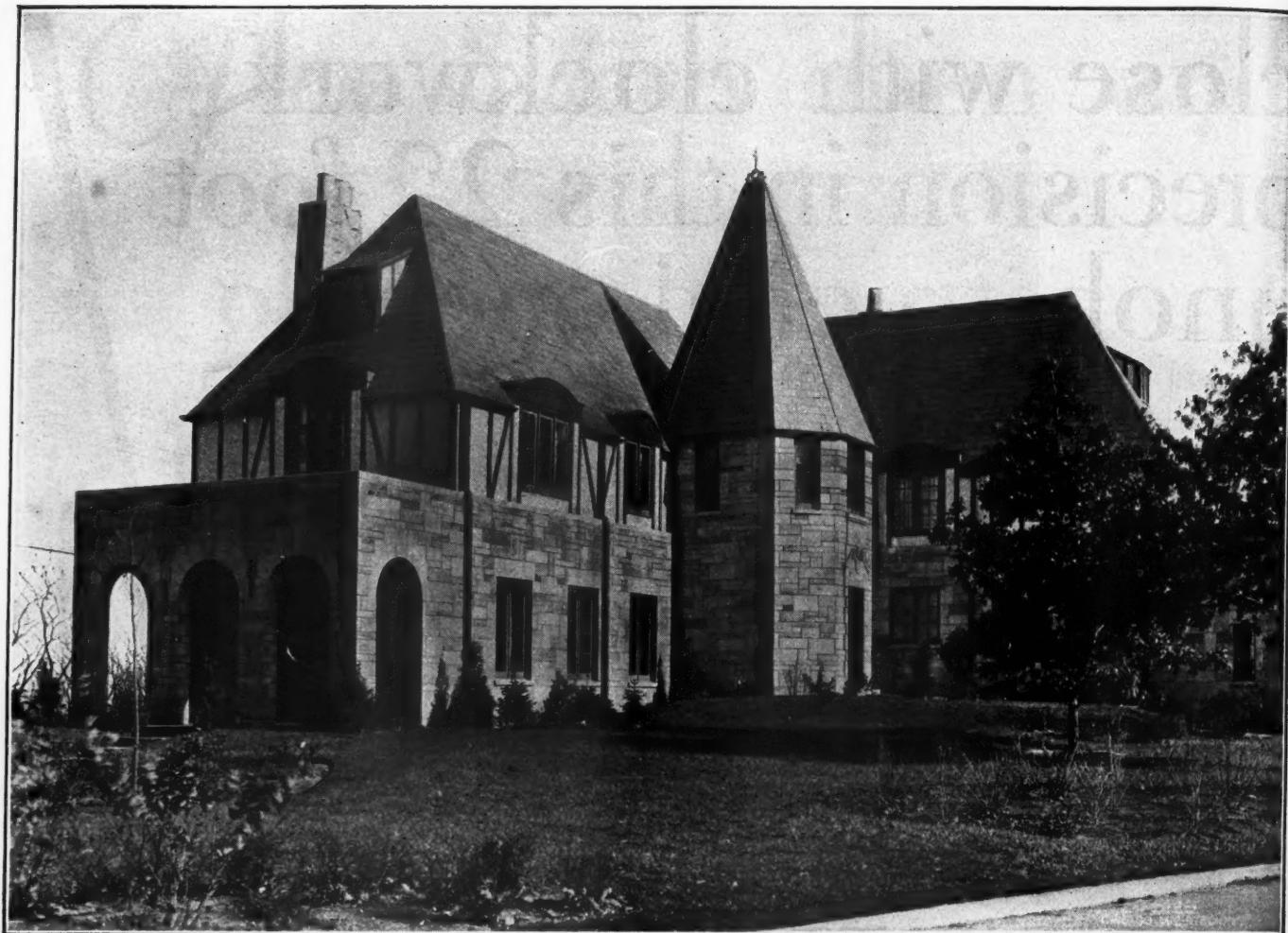
*R-W Slideaside equipment is especially suited to private garage openings when there is insufficient depth to permit folding the doors inside. Slideaside saves space. A child can operate it. Write for further details.*

## Richards-Wilcox Mfg. Co.

A Hanger for any Door that Slides

New York . . . . . AURORA, ILLINOIS, U.S.A. . . . . Chicago  
 Boston Philadelphia Cleveland Cincinnati Indianapolis St. Louis New Orleans Des Moines  
 Minneapolis Kansas City Atlanta Los Angeles San Francisco Omaha Seattle Detroit  
 Montreal • RICHARDS-WILCOX CANADIAN CO., LTD., LONDON, ONT. • Winnipeg

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



*Residence, Deer Park, Illinois. Kenneth T. White & Co., Architects. Roland A. Taylor, General Contractor. Old Gothic Indiana Limestone Random Ashlar, with trim of Variegated Indiana Limestone.*

# No Gamble in Building of Shot-Sawed Limestone

*We have completely standardized the method of using  
this beautiful natural stone. Write for free booklets.*

**C**ONTRACTORS are finding to their delight that the shot-sawed Old Gothic Random Ashlar as supplied by this company offers a new, economical, thoroughly satisfactory way of using natural stone.

No time is lost in preparing stone for the building now. We saw Old Gothic Limestone into strips four inches thick and into several heights at the quarries. On the building site the stone is broken to lengths

required, for its position in the wall. Stone masons or bricklayers lay it up in the wall. No carefully prepared drawings are needed. Construction can proceed at any desired rate of speed.

Indiana Limestone Random Ashlar is used as a facing over hollow tile or brick, or as a veneer over ordinary stud frame construction. Cut stone is used for trim only, or may be omitted entirely. This

**INDIANA LIMESTONE COMPANY, General Offices:**

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

This shows one of the ads in *House Beautiful* and *House & Garden* magazines which are creating interest in shot-sawed Old Gothic Random Ashlar for residences. Hundreds of inquiries come to us from interested home-builders. Why not become the authority on Indiana Limestone construction in your community?



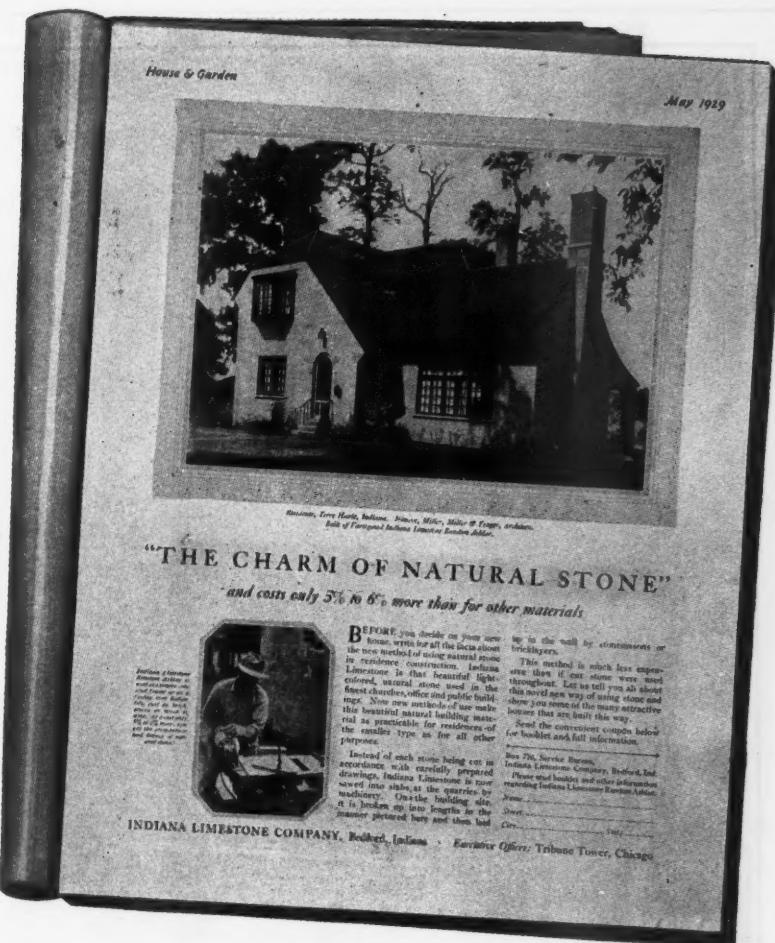
method of using Indiana Limestone has become standardized, so that there is absolutely no gamble in building of stone.

Buildings faced with the shot-sawed Old Gothic Indiana Limestone Random Ashlar are extremely attractive in appearance. They have high resale value. Why not write us today and get posted on this new development?

We are now advertising shot-sawed Old Gothic Random Ashlar for residence construction in such magazines as *House Beautiful*, *House & Garden*, etc.



Showing how Indiana Limestone is laid up as an irregular or random veneer or facing. No carefully prepared drawings are needed.



Hundreds of inquiries are coming in from interested prospective builders. Here is an opportunity for you to make yourself the authority in your community on this new way of using stone. Just fill in, clip and mail the handy coupon below.

The volume at the left contains many fine plans. People have gladly paid 50c a copy for it. Here we offer it to you FREE.



Box 757, Service Bureau,  
Indiana Limestone Company, Bedford, Indiana.

Please send booklets and other information regarding Indiana Limestone Random Ashlar for residences.

Name.....

Street.....

City..... State.....

Bedford, Indiana • Executive Offices: Tribune Tower, Chicago



Crittall's new Screened Casement is simple, compact and easily operated. The screen panels covering the actual window opening are of antique bronze cloth, No. 16 mesh

## CRITTALL ANNOUNCES . . . A NEW COMBINED SCREEN AND CASEMENT

Now, you are offered an economical screened casement that is truly practical. Crittall is introducing Stanwin Casements with screens as an integral part.

The new Crittall Screened Casement is simple and sturdy in construction and design. It consists of a lower vertical sliding

screen and an upper fixed screen, attached directly to the window on the inside.

Crittall Screens are quickly removable and easy to replace. They permit free access to open or close the casement—or to operate awnings. No hardware projects through the screen,

which may be raised and lowered with the finger tips.

The cost of Crittall Screened Casements is remarkably reasonable. Write today for complete information or see our nearest representative.

CRITTALL CASEMENT WINDOW Co.  
10984 Hern Avenue      Detroit, Michigan

# CRITTALL CASEMENTS

Stanwin Casements

Norman Casements

Universal Casements

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

# CLARKE OWNERS ATTENTION!

OWNERS of Clarke Sanding Machines who wish to double the daily footage of finished floors *per man*, should write for details of how it is being done. By this new method one man can sand 1,600 to 4,000 feet of new floor per day, or from 600 to 2,000 feet of old floor.

To Clarke owners, that simple announcement is sufficient.

And now for the man who does not yet own a Clarke Vacuum Portable Sander and does not know from experience the profits and opportunities in FlorKraftsmanship.

Some who read this will say to themselves, "The weather's too warm—I'll get full information later on." Others who have the spirit and spunk will act today and by cold weather will be writing letters to Clarke about their profits. They will be the men who realize that when others are "coasting along" this summer, it is the easiest time for *them* to step out and get the dough.

### These are the Naked Facts

Like thousands of others, you, too, can make \$25 to \$75 a day in FlorKraftsmanship. There's nothing new to learn. With a Clarke Vacuum Portable Sander you finish floors velvet smooth. Everybody wants fine floors. Modern decorations demand them.

The Clarke weighs 31 pounds complete. Plugs into any light socket—no special power line needed. Runs day-in, day-out. Knocks from 2 to 20 coats



of varnish, shellac, etc., off 300 to 1000 feet of old floors or finishes 800 to 2000 feet of new floor, bringing out the full beauty of the wood itself. Your customers become your friends and business boosters.

The Clarke works equally well in closets, on stair landings and close to the quarter round. It's almost like using a vacuum cleaner. Sells on easy payment plan. You've got all any man ever had who became a FlorKraftsman. You've got time and ambition and that's all that's needed for success.

### Act Right Now

Clarke will send you by return mail the whole story of FlorKraftsmanship. **MAIL THE COUPON.**



**\$25 to \$75 a day  
as FLORKRAFTSMAN**

### CLARKE SANDING MACHINE CO.

Dept. A-37, 3815 Cortland Street, Chicago, Ill.  
Originators and, for 12 years, manufacturers  
of Portable Sanding Machines

### MAIL THIS COUPON

Clarke Sanding Machine Co.  
Dept. A-37, 3815 Cortland St., Chicago, Ill.  
Gentlemen: Please send me your free booklet,  
"Pointing the Way," and full facts about the  
Clarke Sander and about FlorKraftsmanship,  
without obligation to me.

Name.....

Address.....

City..... State.....



*—a home where wood lends charm . . . where*  
**"Tree-Mark"**  
*lumber means*  
**CERTAINTY**



AS PROSPECTS inspect a home you offer for sale, they will be impressed if you have given it character by the skilful use of well-chosen woods. The house will sell more easily if construction economies (made possible by building with lumber . . . the right lumber) have assured an attractive selling price at a worthwhile profit.

And when you are closing the sale, think what it means to be able to say, "I know the grade and species of every foot of lumber in this home. I have used trade- and grade-marked lumber throughout. I am absolutely sure of its quality . . . I guarantee it to you!"

Never before has it been possible for you to make such a guarantee! But now the National Lumber Manufacturers Association guarantees to your dealer that the lumber bearing its symbol—the "Tree-Mark"—is of the quality indicated thereon by the official marks of the expert grader . . . that it is carefully manufactured "American Standard Lumber from America's Best Mills."

Prospective home owners everywhere are being told of the advantages of "Tree-Mark" lumber through a vigorous national advertising campaign. You can profit by their growing appreciation of the value of trade- and grade-marked



(Right) This "Tree-Mark" stamped on a piece of lumber is your assurance that the quality indicated thereon by the marks of the expert grader is correct . . . that the lumber is carefully manufactured "American Standard Lumber from America's Best Mills"



Look for the "Tree-Mark"

lumber—at no cost to yourself. Demand "Tree-Mark" lumber for buyer's satisfaction and sales facilitation!

You will find valuable data on "Tree-Mark" lumber and on building in the two booklets here offered free. Send the coupon. You will be glad you did!

NATIONAL LUMBER  
MANUFACTURERS ASSOCIATION  
WASHINGTON, D. C.

New York • Boston • Pittsburgh • Indianapolis  
Chicago • Minneapolis • Kansas City  
Memphis • New Orleans • San Francisco

*Mail Coupon Today!*

National Lumber Manufacturers Association,  
Dept. 4755, Transportation Bldg.,  
Washington, D. C.

Gentlemen: Please send me FREE

"Taking the Mystery Out of Lumber Buying"  
 "Modern Home Interiors"

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

Two Kansas City, Mo., Kernerator-equipped duplexes by Mr. B. F. Hart, contractor and the J. B. McCallum Construction Co.



**"The Best Talking Point We Have in Selling"**

J. W. McCALLUM CONSTRUCTION CO.  
GENERAL CONTRACTORS  
315 E. 12TH STREET  
KANSAS CITY, MO.

January 14, 1929

Kerner Incinerator Co.  
Milwaukee, Wisconsin.  
Gentlemen:

I am sending you a photograph of two beautiful duplexes recently constructed at 412 and 420 East 45th Street, Kansas City, Missouri, by us. Much we used Kernerators.

In these duplexes as well as other homes we build we have found the Kernerator is the best talking point we have in selling.

For sometime we used Kernerators in our higher priced homes only, but the interest displayed by our prospective customers was great enough that we tried them in smaller homes with equal success.

I assure you all of our homes we build, whether a garage or no, will be Kernerator equipped. Because through the use of the Kernerator we can get rid of the garage can and trash nuisance by the Kerner method.

McCallum Construction Company  
by J. W. McCallum

In these duplexes as well as other homes we build, we have found the Kernerator is the best talking point we have in selling.

For sometime we used Kernerators in our higher priced homes only, but the interest displayed by our prospective customers was great enough that we tried them in smaller homes with equal success.

Write for complete information and prices or phone your nearest Kernerator representative. Offices in over 100 cities.

KERNER INCINERATOR CO.  
753 EAST WATER ST. MILWAUKEE

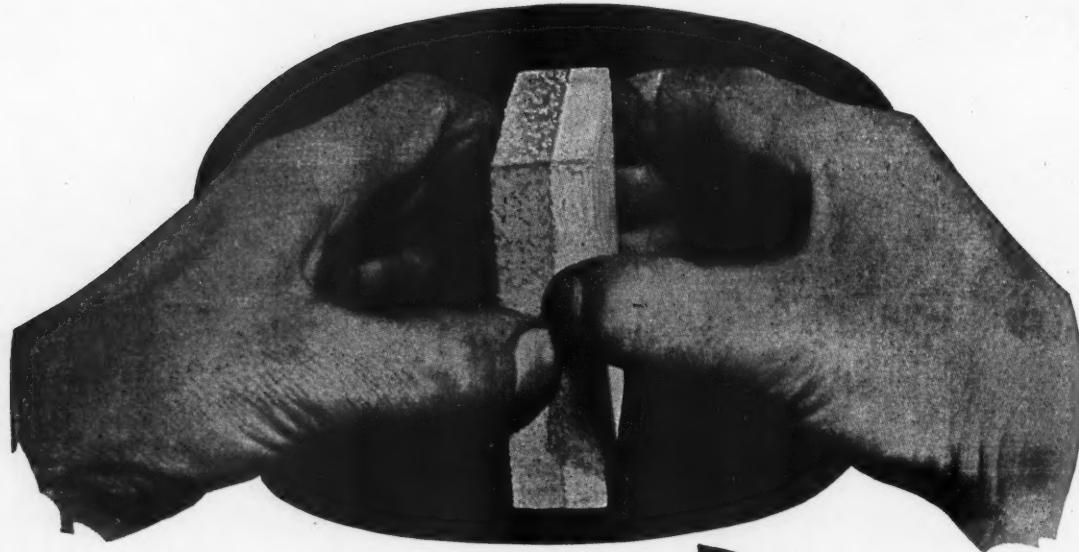
# KERNERATOR

REG. U. S. PAT. OFF.  
INCINERATION

Garbage and  
Waste Disposal



for New and  
Existing Buildings



# YOU CAN'T PULL THEM APART!

**Plaster and Insulite Base  
are Bonded for Keeps...**

TINY, tough wood fibers projecting from the surface of Insulite embed themselves in plaster. That's one reason Insulite Plaster Base holds plaster with a grip which is *twice as strong* as that of wood lath. This fact is proved by the laboratory tests of disinterested engineers.

Insulite gives not only *double strength* plaster base but also highly efficient insulation against heat or cold—and a plaster job exceptionally free from cracks.

Insulite is full  $\frac{1}{2}$  inch thick—this means  $12\frac{1}{2}\%$  more efficient insulation than ordinary  $\frac{7}{16}$  inch insulating boards.

Furthermore, laboratory tests show this all-wood, chemically treated product will not deteriorate, and that it has much greater tensile strength than ordinary insulating boards.

Our Engineering Department is maintained for your convenience and assistance. Write for free samples and information on the many uses for Insulite.

SHEATHING  
PLASTER BASE  
WALL BOARD

**INSULITE**  
*the Wood-Fiber Insulating Board*

ROOF INSULATION  
SOUND DEADENER  
ATTIC LINING

**THE INSULITE COMPANY**

1202 Builders Exchange, Dept. 11  
MINNEAPOLIS, MINNESOTA

**INSULITE—FULL  $\frac{1}{2}$  INCH THICK—RESISTS HEAT—COLD—NOISE**

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

# This is the Eternit Owner's Certificate



THIS Eternit Owner's Certificate is given to every owner of Eternit Asbestos Shingles. It is signed by the president of Eternit, Inc., and mailed from the home offices direct to the owner.

#### *And this is how it helps you*

It shows the owner that Eternit, Inc., stands squarely back of these shingles—certifying to their strength, beauty, fire-proof qualities, and permanence.

Kept with the property deed,

it assists the owner in mortgaging, renting, or selling his building. It aids in securing lower insurance rates.

It assures the owner that you—the builder—have used the highest grade roofing; it marks you as a builder who insists upon the finest materials. That means a reputation. A reputation means business.

Eternit Asbestos Shingles are profit-makers for the up-to-date builder. And one reason is this: Eternit colors are permanent!

#### *Colors that go all the way through!*

Eternit colors are not surface colors—not a painting—not a sprinkling—not embedded material. Eternit colors are unchanging mineral oxides. An integral part of the shingle itself. Emerald Green, Indian

Red, Quarry Blue, and Colonial Gray absolutely will not bloom or fade out! Autumn Bronze and Heath-erblends (a special combination of five shades) are equally beautiful.

Let us tell you about Eternits and the exclusive Eternit features. *Eternit, Inc.*, Riverview Drive, St. Louis. Also Philadelphia, Houston, New Orleans, Jacksonville. *Makers of Eternit Big-7 Corrugated Asbestos Sheets and Eternit Asbestos Flat Sheets.*

**Eternit**  
ASBESTOS  
SHINGLES

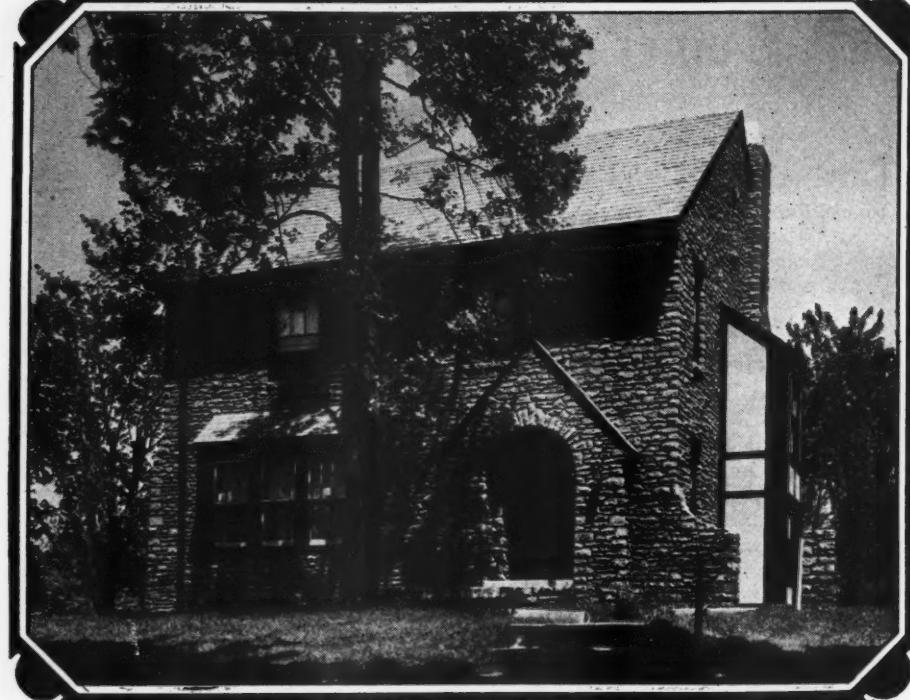
ETERNIT, INC., Dept. C  
Riverview Drive, St. Louis  
Please send me full details, roofing directions  
and samples.  
Name \_\_\_\_\_  
Street \_\_\_\_\_  
City \_\_\_\_\_  
State \_\_\_\_\_  
Dealer's Name \_\_\_\_\_

FOR THE PROTECTION OF THE BUILDER, EVERY ETERNIT SHINGLE IS TRADE-MARKED; EVERY ETERNIT ROOF IS REGISTERED

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

*The Most Beautiful Homes in America  
are made Fire-Safe with*

# ARCH LATH



The plasterer doubles right back over the scratch coat, saving the time and labor ordinarily required to remove and re-erect scaffolding.

Residence, St. Louis, Mo.  
E.E. Christopher,  
Architect

Build with Arch Lath and you build for quick sale. Arch Lath is *well known*. The results secured with it are demanded by home owners everywhere. Costs no more to use than inflammable material.

Produces beautiful walls and ceilings that are free from stain. Gives maximum protection against fire and plaster cracking. Lasts indefinitely because it is fabricated from solid sheets of

# COP-R-LOY

Reg. U. S. Pat. Off.  
THE COPPER ALLOYED SHEET STEEL

The use of this finer steel insures added preference for Arch Lath because COP-R-LOY is nationally advertised and specified in other forms for the most important building construction.

Always popular because of its design and rigidity, which prevents plaster waste and saves time and labor, Arch Lath is now in greater demand than ever. It will pay you to use Arch Lath in the homes you build because you can make capital of the fact that the

walls and ceilings are made fire-safe with Arch Lath, which, being made of COP-R-LOY, will last indefinitely. Send for samples, prices and complete descriptive information.

WHEELING CORRUGATING COMPANY  
WHEELING, WEST VIRGINIA  
Branches: New York, Buffalo, Philadelphia,  
Chicago, Kansas City, St. Louis, Richmond, Chattanooga,  
Minneapolis, Des Moines, Columbus, Ohio



Reg. U. S.

Pat. Off.

### Wheeling Sheet Steel

Building Materials such as Spanish Metal Tile, Roofing Ternes, Diamond Lath, Corner Bead, Picture Mold, Base Screed, Wall Ties and other essentials are now available in the better and more durable steel, COP-R-LOY

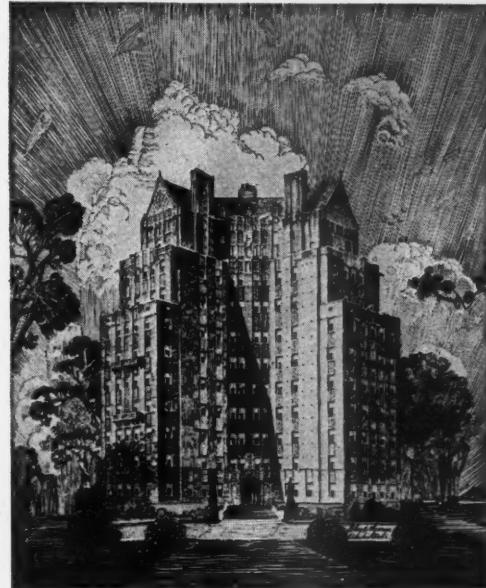
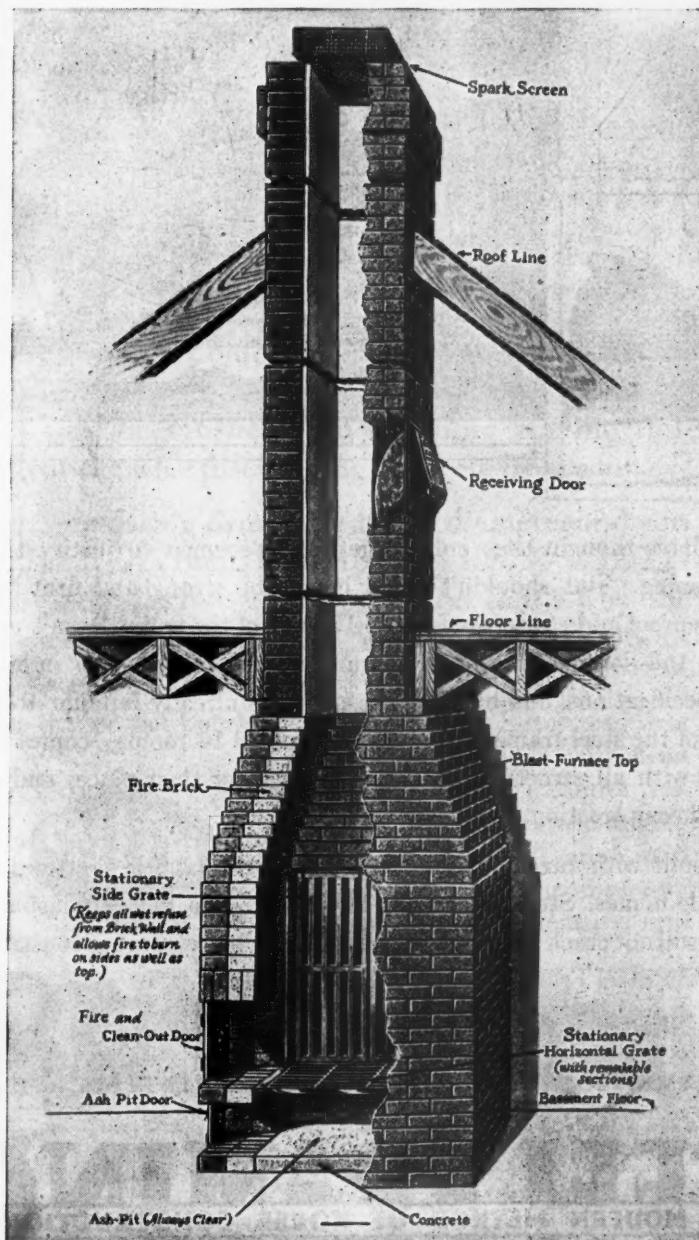


Spanish  
Metal  
Tile

# K-M Incinerators

## *For Residences, Apartments, Hotels*

**Simple  
Efficient  
Fool-proof  
Economical**



800 W. Ferry St., Buffalo, now under construction, to be equipped with K-M Incinerators.  
DARWIN MARTIN, Owner and Builder  
BLEY & LYMAN, Architects

K-M Incinerators furnish *speedy, thorough combustion* because of their blast furnace design providing maximum draft . . . because of the "suspended basket" type of grate which holds the refuse away from the brick side walls and permits the circulation of air and combustion on all sides as well as at the top of the refuse . . . and because of the two-point draft thru both the fire door and the clean-out door.

K-M Incinerators are "fool-proof" in their operation because there are no moving parts to get out of order, no bearing blocks, shakers or handles . . . because the elimination of shakers and dumping grates does away with the clogging and warping of grates and keeps the ash pit free from excessive accumulation which might impede the draft . . . and because the sturdy construction of grates and doors has eliminated all danger of breakage.

K-M Incinerators are *simple to install* and *cost less* than most incinerators. Write for details.

### KELLOGG MANN & CO., INC.

315 Grote Street, Buffalo, N. Y.  
551 Fifth Ave., New York City

### KELLOGG MANN & CO., INC.

315 Grote Street,  
Buffalo, N. Y.

Please send me complete details of your K-M Incinerator.  I am a builder or  I am a dealer.

Name \_\_\_\_\_

Address \_\_\_\_\_

City & State \_\_\_\_\_



*both  
can have the  
advantages  
of  
SKY-SCRAPER  
CONSTRUCTION  
with  
STEEL  
FRAMING*

# A small home or a large home



Maybe you have thought that only large homes seemed to justify the use of Steel Framing. But shouldn't small homes be strong and firm in construction, fireproof and stormproof, too? The size of the home doesn't matter, neither does the design. Architects are not limited *in any way* in making plans and specifications, and builders use methods already familiar to them. Every piece of the steel framework—for 5 rooms or 15 rooms—comes to the building site with all structural members marked for their places and ready for quick and easy erection.

The homes built with Steel Framing are permanent homes—better homes, more valuable homes. Steel won't warp or shrink or weaken, so plaster walls and ceilings will not crack or fall. Every advantage of skyscraper construction is added to any Steel Frame Home—large or small.

*Write for Booklet, "Steel Framing for Dwellings"*

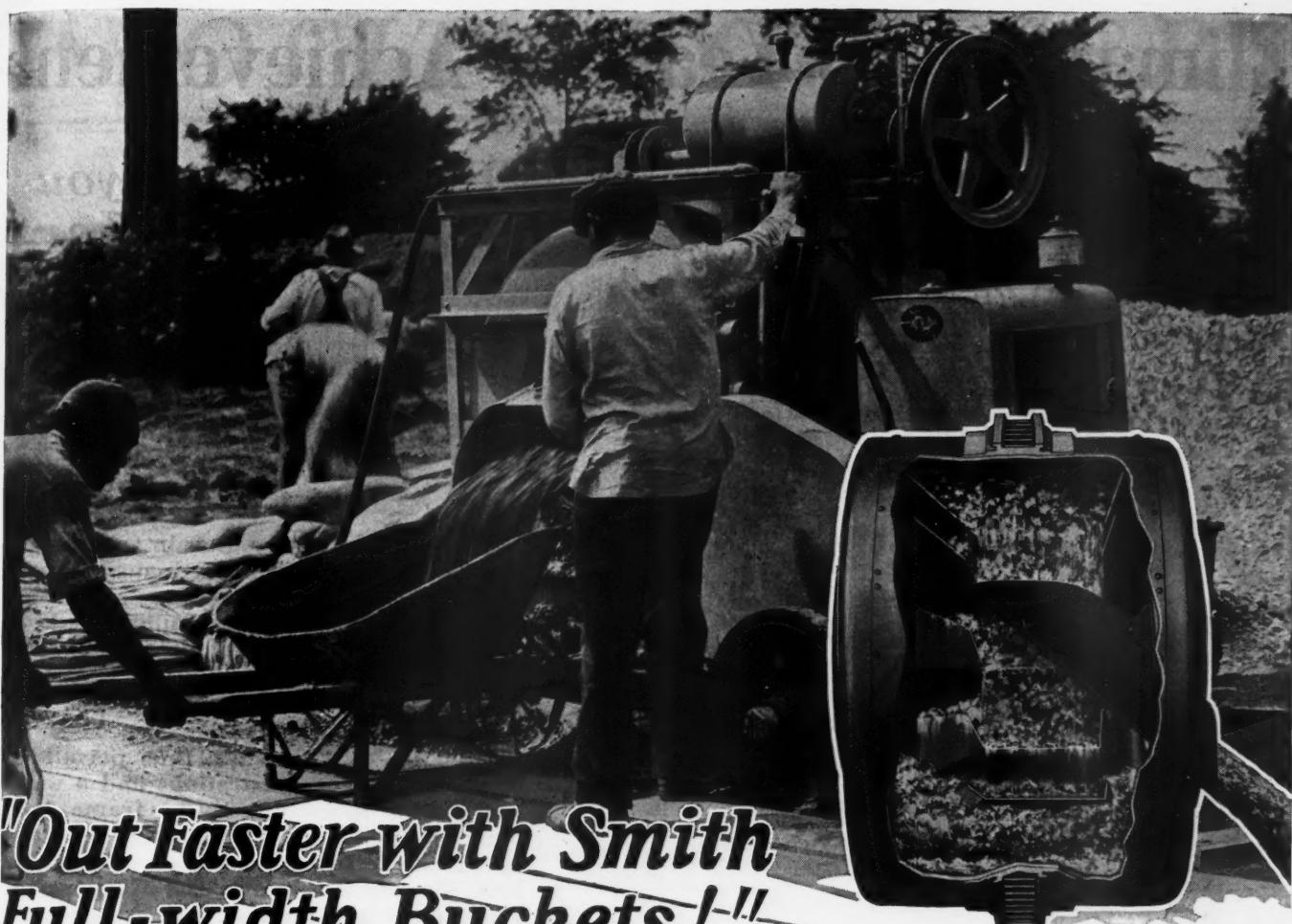
STEEL FRAME HOUSE CO., OLIVER BLDG., PITTSBURGH, PA.

# STEEL FRAMING

THE MODERN METHOD OF HOUSE CONSTRUCTION

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

If you are near Philadelphia, Lancaster, Toledo, Columbus, Indianapolis, Syracuse or Rochester, see the Steel Frame Homes now being erected. Newspaper announcements in these cities give complete details.



## "Out Faster with Smith Full-width Buckets!"

YOU wouldn't bail out a boat with a small dipper if a big pail were available — it takes too long! Then why be satisfied with anything but big full-width buckets for discharging concrete from a mixer?

Smith non-tilting drums are big in diameter and narrow. That lets them have 10 deep FULL-WIDTH mixing and discharge buckets. And that's why the semi-circular chute swings in TWO-THIRDS of the way across the drum.

Either dry or wet batch is scooped up in a hurry and shot out of the drum in a swift clean slide. The concrete cannot possibly fall back. The steep-angled chute catches it all, and in 8 seconds the drum is completely discharged. A BIG feature, and



reserved by patents for the advantage of Smith users only.

In faster — mix faster — out faster! That's the speedy program for every batch. And faster batches mean more work done—greater profits for the contractor.

Clip and mail the coupon for our new Bulletins 628 and 728.



# SMITH MIXERS

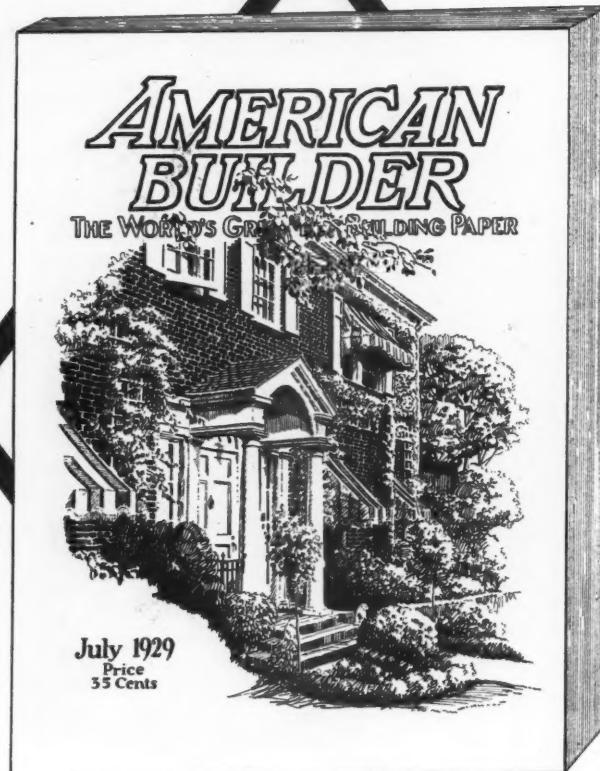
THE T. L. SMITH COMPANY, [Division of National Equipment Corporation] 1026-32nd Street, Milwaukee, Wisconsin

Please send me copies of your Bulletins 628 and 728.

Name.....Address.....City.....State.....

A5220-I-SM

# Climaxing 25 Years of Achievement



*If you read and approve American Builder, pass the good word along to your friends.*

A new *Question and Answer Department* recently made its appearance. Each month, eight questions of general interest will be selected from our correspondence and listed at the head of this department. Readers are invited to answer these questions from their own experience with similar situations, and all material thus submitted and published will be paid for. Here is a wealth of practical, usable information for you.

*How Dan Does It* is another department that is meeting with increasing popularity from month to month. Simple solutions to oftentimes puzzling problems save time, energy and money in performing tasks that daily confront you.

No progressive builder can afford to miss the wealth of information in every issue of American Builder. Here you will find an accurate account of all worth-while improvements in methods and materials.

*If your subscription is about to expire, or has expired ACT NOW! to insure uninterrupted receipt of the magazine.*

**Send Now** →

*We now give you  
An even greater*

# AMERICAN BUILDER

WITH the July issue, now in your hands, The American Builder inaugurates an ambitious editorial program surpassing even the outstanding accomplishments of over a quarter-century of practical, useful service to the Building Industry.

The size of the magazine has been increased to 9 x 12 inches, thus permitting the use of larger illustrations and a wider margin to more effectively frame both text and pictures. This change will add materially to the appearance of the magazine, already well-known for excellence of typography and general design.

### *New Artistic Cover Design*

A prominent artist has been engaged to paint in full colors, a series of architectural designs, of great beauty and interest. These will appear on front covers of coming issues. No architect, contractor or home builder will want to miss them. They will be worthy of preserving for future reference.

America's leading Architects will offer to American Builder readers, their latest and best home designs. These will appear in black and white and in pen and ink sketches in color on art paper. The designs will range from large to small and will cover Small Homes, Apartments, Business and Public Buildings.

### Clip and Mail This Coupon—NOW!

THE AMERICAN BUILDER	AB 7-29			
105 W. Adams St., Chicago, Ill. ....	1929			
Enclosed find \$2.00 for which ENTER RENEW my subscription to The American Builder for one year.				
NAME.....				
ADDRESS.....				
POST OFFICE.....	STATE.....			
My occupation is (Check Only One)				
<input type="checkbox"/> Dealer	<input type="checkbox"/> Builder	<input type="checkbox"/> Architect	<input type="checkbox"/> Real Estate	<input type="checkbox"/> Miscellaneous

# PROFIT PRODUCERS



*Monarch*

No. X-24



No. X-9

**Bench Band Saw.** 12" and 16" sizes. Solid wheel guard, completely enclosed, precluding all possibility of accidents. Motor built in. May be operated from lighting current or by belt from any kind of power. Handy—Adaptable—Sturdy.

Built, tried, tested and guaranteed for long-lasting, hard service, this new Monarch machine is the surest way to secure greater efficiency and economy.

*Note these special Features:*

Saw may be tilted 45 degrees to the vertical, may be lowered beneath table or raised through table when either vertical or tilted.

Ripping gauge may be used either side of saw.

Cut off gauge may be set either side of saw at any angle up to 120 degrees.

Right hand table fixed, left hand table movable for use of dado or removable entirely for free access to saw.

Saw guard of special design affords complete protection.

Diameter of saw, 14". Shipping weight, 690 pounds. Equipment includes 1 14" novelty saw, 1 ripping gauge, 1 cut-off gauge, 1 splitter, 1 saw guard, ball bearing motor which develops 2-h. p. at full speed and is controlled by an internally fused snap switch.

*It will pay you to investigate this most modern wood-working machine—and place it in your shop.*

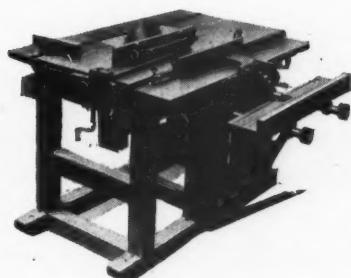


Fig. 690—

Four men can use this Variety Wood Worker at the same time. A Rip and Cut-Off Saw Bench, with Boring Attachment, Mortiser and Jointer all in one. Send for Booklet No. 82.



**No. 65—Variety Tilting Table Saw**—with motor on arbor; with motor on base; with counter-shaft. Each machine furnished with one saw, ripping gauge and one cut-off gauge with reach rod and stop.

## AMERICAN SAW MILL MACHINERY CO.

60 Main St., Hackettstown, N. J.

*Manufacturers of a complete line of Woodworking and Saw Mill Machinery*

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

# Color on the Roof---

## Yet it costs no more....



## DUOFACE

### The New Ambler Asbestos Shingle

Color, both in and on the home, is demanded today.... Homes must attract buyers.... Color accomplishes this end.... Builders have long recognized the endurance and safety of Ambler Asbestos Shingles.... Now Ambler has added the double inducement of a color blend or a plain gray at the same price as formerly quoted on standard Newport Gray.... On one side of this new Shingle--- DUOFACE---is a pleasing mottled effect of red, black and gray; on the other side the conservative, lasting Newport Gray.... Lay these shingles either side to the weather.... If you are building several houses, alternate them to give distinction to the operation.... Duoface is available in 8x16 in. American method, or 16x16 and 12x12 in. Honeycomb.... Write us for the whole story....

*Other*  
**Ambler Asbestos  
Products**

WALTILE  
 CORRUGATED SHEETS  
 ASBESTOS LUMBER  
 LINABESTOS WALL BOARD  
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**AMBLER  
ASBESTOS SHINGLE & SHEATHING  
COMPANY**

ST. LOUIS, MO.

AMBLER, PA.

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

# WHY ARCHITECTS ARE INSISTING ON OAK FLOORS



## A HOUSE AS STAUNCH AS AN OLD-TIME GALLEON

THE strong simplicity of oak gives this interior much of its fascination. Note the huge oak beam that forms the mantel, and the splendid sweep of the richly grained floor.

Oak flooring, durable, adaptable, expressive of character and strength, lends dignity to every type of home, great or small. Oak floors set the seal of value on a house. They are recognized symbols of good design and sound

*SEE OUR CATALOGUE IN SWEETS*

construction. Yet their cost is only a trifle more than that of softwood floors, and considerably less than that of many other flooring materials.

Let us send you examples of some of the more unusual oak floors that have recently been laid, or aid you with technical advice on any flooring problem. OAK FLOORING BUREAU, Builders' Building, Chicago.

*Oak flooring advertising will be carried on during 1928-29 on an increased scale. Look for the advertisements in "House and Garden," "House Beautiful," "Good Housekeeping," "Better Homes and Gardens" and "The Literary Digest."*



This advertisement, in full-page size, is one of the series appearing monthly in "Architecture" and "Architectural Record."

EVERY month, in leading architectural magazines, the beauty and durability of Oak Flooring, and its splendid adaptability to every sort of decorative treatment, are being driven home to the men who plan houses.

This advertising, showing charming and unusual oak-floored interiors, has already made a strong impression on architects the country over. And there are bigger profits for you in homes that have oak floors throughout.

Call on the OAK FLOORING MANUFACTURERS' ASSOCIATION to help you on any flooring problem.

OAK FLOORING MANUFACTURERS'  
ASSOCIATION

1238 Builders' Building  
Chicago, Ill.



## INDIANA LUMBERMAN *Roofs* *his house with Winthrops*

This is the residence of Mr. C. L. Henry of the Henry Lumber Company, Michigan City, Indiana. Mr. Henry knows building materials and in his yard there are many high quality trade-marked products — including Winthrop Tapered Asphalt Shingles of which he has high opinion.

When he built a house for himself he built it well. For his roof, he and his architects, Ahlgrim & Boonstra, selected Winthrop Tapered Asphalt Shingles. Their thick butts double the wearing thickness where exposure comes and they lie flat, making a weather-sealed roof.

Winthrops have non-fading colors—natural colors of their crushed slate surfaces. Winthrops are fire-resisting—carrying the Class C Label of Underwriters' Laboratories.



Winthrops do not rot, rust, crack or split. They make lasting roofs.

Twenty colors of Winthrops, solid and blended, permit a choice that suits any house in any surroundings and makes the roof an architectural feature.

### *Samples Free*

Most good lumber dealers carry Winthrops, but we believe you can use one or more full size samples. Write us, stating, please, what color you wish or whether you'd prefer that we send you one of our popular blends. Mention, too, please, if you could use a sample of Argotex Building Felt, noted for its insulating value.

**BECKMAN-DAWSON ROOFING COMPANY**  
1032 Brooks Building, 223 W. Jackson Boulevard, Chicago, Illinois  
*Factories at Chicago, Ill., Detroit, Mich. and Lockport, N. Y.*



## Winthrop Tapered Asphalt Shingles

*Argotile (slate surfaced) Roofing, Supreme (mica surfaced) Roofing, Wearproof (talc surfaced) Roofing, Argotex Insulation*

# The ribbon grain that is mahogany's charm

*...at a 40% saving!*

*A most remarkable new series of  
doors, the Philippine Laminex  
line bids for your next job*

THE beauty that you've associated with mahogany alone—you can afford to get in the next doors you specify.

The same graceful slender ribbons of grain. The same rich finish. Or a lustrous walnut finish that most mahogany won't take!

Doors of this beautiful tropical hardwood are the sensation of the day. In the East, in the Middle West. On the Pacific Coast where very few other hardwood doors are being used!

Philippine Laminex comes from the Philippines. Comes in duty-free. It is selected by our own buyers in the Islands, imported in great quantities. Because of those advantages, and because we are the largest manufacturers of doors in the world, we can offer Philippine Laminex doors so inexpensively.

These doors have all the structural qualities that have made Laminex doors famous. They will not swell, shrink, or warp. Which means not only a potent sales point for you, but actual savings in avoiding door repairs.

The coupon below will bring you more information—in time for you to figure Philippine Laminex in your next job.

## PHILIPPINE LAMINEX, DOORS

*Will not shrink, swell, or warp*

*Saved expense of refitting  
doors in this Long Island job*

Writes Harry Wohl who, with his brother Martin M. Wohl, has built many of the outstanding apartment and hotel buildings on Long Island, "Laminex doors saved the refitting and rehanging usually necessary with ordinary doors."

In the President Harding Apts. pictured, 1000 Laminex doors "were absolutely satisfactory." These trouble-proof doors can save you repair costs, too. And make your jobs more attractive to buyers!



*Simplest but not least interesting of the 23 Philippine Laminex designs is the slab door—No. 100*

The Wheeler, Osgood Company,  
Dept. E-79, Tacoma, Washington.  
Please send me more information about Philippine Laminex doors, and where I can get them locally.

Name.....

Address.....

City..... State.....

# Make your homes year around Summer Resorts



YOU can guarantee year around comfort by installing Holland Vapor-  
aire Systems in the homes you build. A modern Holland with an electrically operated Aire-U-Well propeller combines the advantages of large heating and cooling installations used in fine theaters, schools and similar buildings. A refreshing breeze is forced through every part of the home during hot weather, keeping the rooms cool—upstairs and down. In winter-time clean, moist warmth is distributed to every nook and corner. Every Holland is installed under direct factory supervision. Responsibility is undivided. You deal with one organization. Comfort and satisfaction are guaranteed by a written bond that has no parallel. You and the home buyer are fully protected. Let us tell you how Holland co-operates with builders and helps them sell more homes.

## HOLLAND

VAPORAIRE HEATING AND COOLING SYSTEM

USE THIS COUPON  
HOLLAND MEN KNOW WHO PLANS TO  
BUILD OR BUY IN YOUR NEIGHBORHOOD  
Get the facts. There's no obligation.



HOLLAND FURNACE COMPANY, HOLLAND, MICH.

Without obligation on my part, please

Send me literature

Have a Holland man call

Name \_\_\_\_\_ Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

AB-1

# The GENUINE is EASILY IDENTIFIED



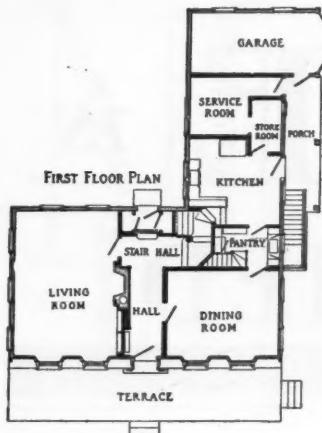
**This Trademark**  
appears upon  
the name plate  
of every genuine  
**BLACK & DECKER**  
Electric Tool



**"The Pistol Grip and  
Trigger Switch"**

--another easily  
recognized feature  
of genuine  
**BLACK & DECKER**  
Portable Electric  
Tools

# BLACK & DECKER



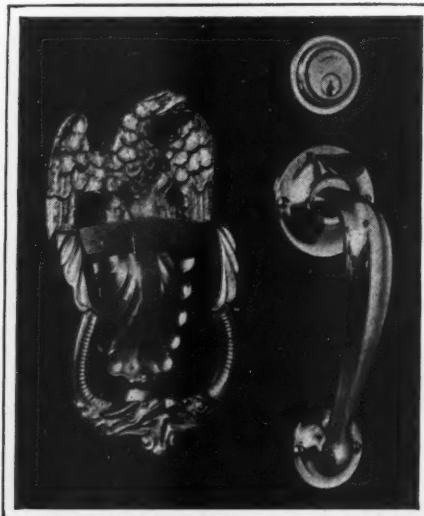
HEATHCOTE M. WOOLSEY and  
S. BURNHAM CHAPMAN  
associated architects

*Appropriate hardware by Sargent  
gives an air of authenticity to a residence of the Colonial type*

THE BEAUTY AND DURABILITY OF SARGENT HARDWARE ARE  
WELL KNOWN TO BUYERS OF HOMES

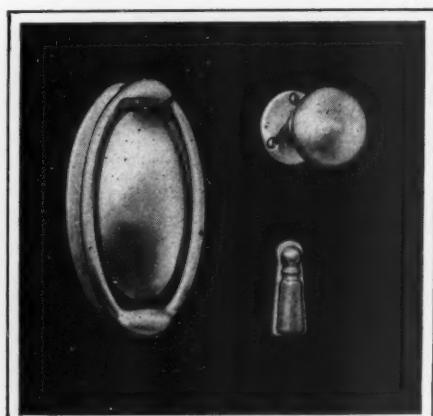
SARGENT offers many authentic designs of hardware for every type of construction . . . and you can equip every residence you build with this excellent hardware of solid brass or bronze at only slightly greater cost than less durable goods. Complete equipment with any designs shown averages only about 2% of the total building cost . . . varying somewhat for different sections of the country and according to the design and type of building construction.

On hardware rests the smooth



Door Knocker No. 16; Door Handle No. 8561HC

operation of every moving part. To save a few dollars by installing any but the best is likely to prove expensive. Sagging hinges, doors that will not latch, worn and rusted surfaces, discolored woodwork, expensive replacements . . . all these things have taught home owners the importance of proper hardware equipment. It will pay you to equip every operation with Sargent Hardware.



Knocker No. 8; Door Knob No. 1606,  
Key Plate 817

The quality of Sargent Hardware is unexcelled . . . each piece is dependable, permanent and perfect in its smooth and certain operation. Such equipment gives to every prospective home-owner an immediate impression of sound construction. Our illustrated booklet, "Hardware for Utility and Ornamentation," is used widely by architects and builders. We shall be glad to mail you a copy without charge. Sargent & Company, 51 Water Street, New Haven, Connecticut.



Knob No. 1845, Cylinder Rosette No. 1;  
Knocker No. 7

**SARGENT**  
LOCKS & HARDWARE

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

# Look at the lumber question in this sensible light



IT IS A QUESTION, as any builder will readily admit. With the lumber you buy, you've got to please customers who often understand nothing at all of your difficulties. That same lumber

must turn out high-caliber work—for your reputation is always at stake. And decidedly, the cost must not eat up your profits!... Isn't it sensible, then, to buy the lumber that will turn out a splendid job, wherever you use it, be a credit to you, and still put you ahead where price is concerned? Of course it is. And *Pondosa Pine* can do just that!

*Pondosa Pine* is good lumber. A remarkable soft wood, *Pondosa* comes from the Great Northwest, where an unlimited supply grows. Dependable and light, *Pondosa* is easy to work and easy to finish. It clings to nails and screws. Fine grained, it finishes flat and smooth and satiny, with never a ridge to mar the surface.

And *Pondosa* is an all-purpose lumber. Leading mill-workers use it for doors and sash. You can use it for built-in work. For stairways, doors and



entrances. For siding, subbase work, porches. For all exterior and interior trim. Moldings, window frames. It is an ideal soft wood.

National advertising is telling home owners and architects the virtues of this good lumber, and showing them how easily it can be bought. To make recognition sure and easy, the pine tree trade-mark is imprinted on *Pondosa Pine*. Just as electrical, plumbing and heating equipment is marked by the maker's imprint, so that trade-mark witnesses the guarantee of the mills. When you buy by the pine tree trade-mark, you're buying safe, dependable lumber! Your local lumber dealer has it. See him today. Western Pine Manufacturers Association, Portland, Oregon.

## Pondosa Pine

*The Pick o'the Pines*

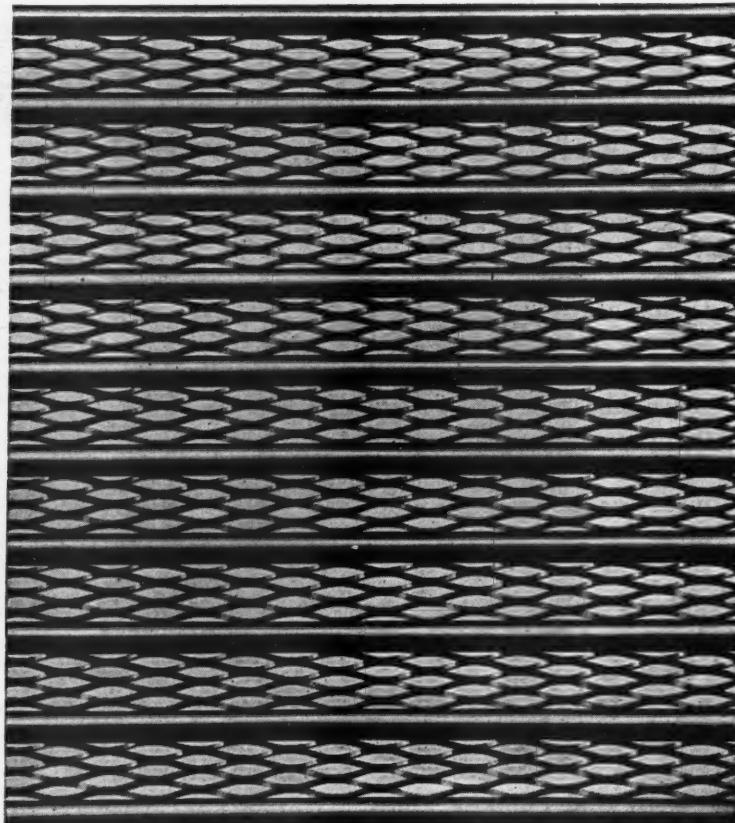
WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

*Announcing the*  
*New TRUSCON*  
  
**DIAMOND "A"**  
**METAL LATH**

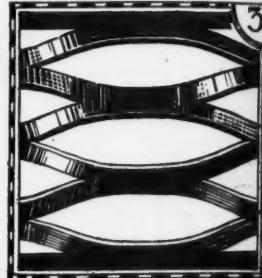
RIGIDITY



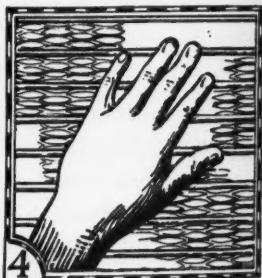
DEEP RIB



DIAMOND KEY



SMOOTHNESS



**THE PLASTERING ECONOMY OF THE DIAMOND KEY  
 COMBINED WITH THE RIGIDITY OF DEEP RIBS**

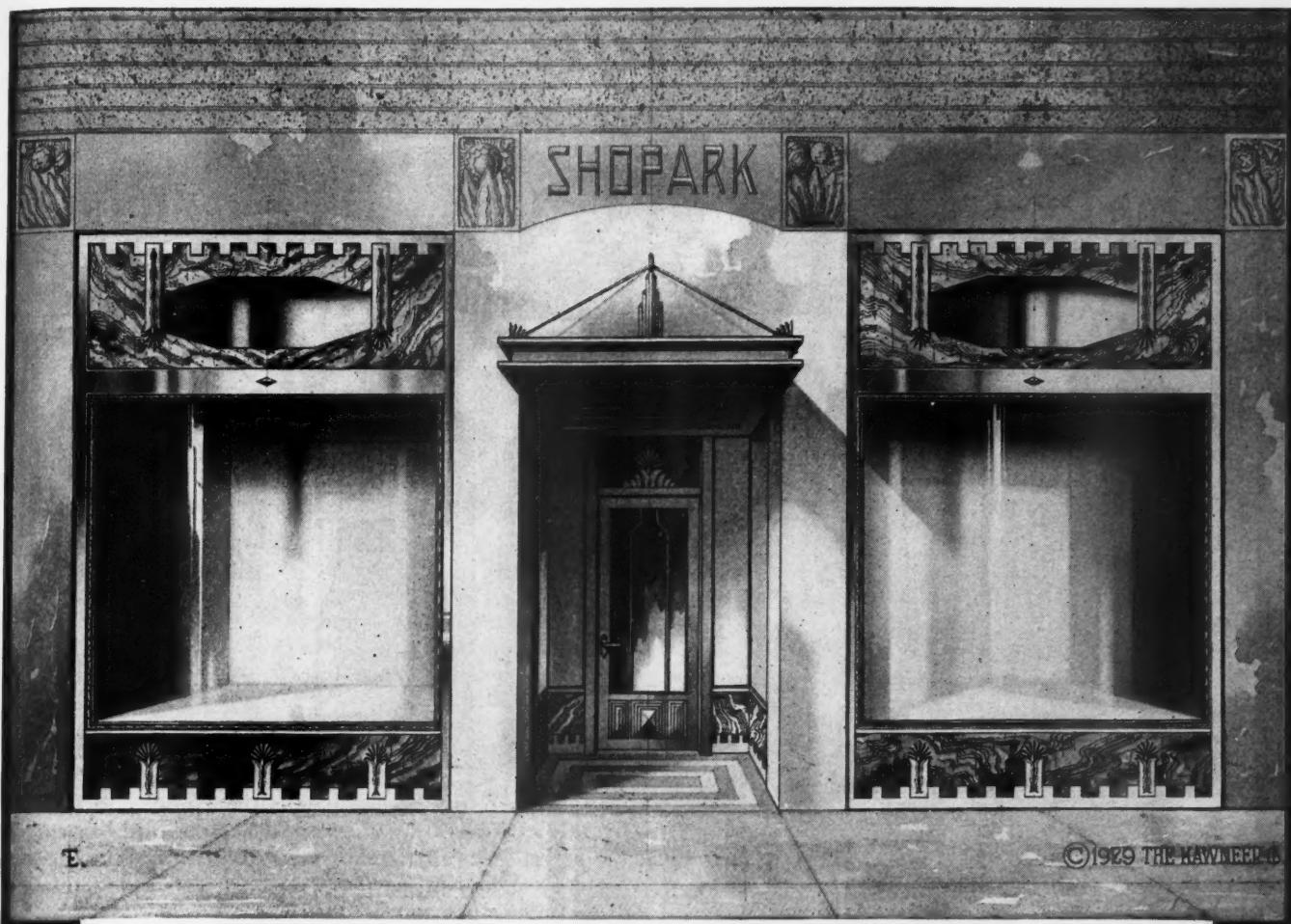
Truscon presents Diamond A Metal Lath as a distinct advance in Metal Lath design. The diamond key lath provides an ideal plastering surface and thoroughly reinforces the plaster. The deep ribs give great rigidity to the lath, permitting wide spacing of supports and preventing bulging and sagging. Sheets of lath are easily handled without danger of cutting the hand. Truscon Diamond A Metal Lath is recommended for the quality of the finished results and the economy of labor and materials.

*Write for complete information*

**TRUSCON STEEL COMPANY, YOUNGSTOWN, OHIO**  
 METAL LATH DIVISION

Trussed Concrete Steel Company of Canada, Limited, Walkerville, Ontario. Warehouses and Offices in Principal Cities of the United States and the Dominion of Canada.

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**Thousands of Merchants Have  
Shown Their Interest in  
MODERN STORE FRONTS**

Inquiries in every mail. Live prospects. Merchants in every part of the country seeking advice.

THEY NEED THE SERVICES OF LOCAL  
STORE FRONT SPECIALISTS

Here's your opportunity in an uncrowded field. Can we refer to you as a specialist in modern store front construction? Mail the coupon for complete information.



**Kawneer**  
BRONZE  
STORE FRONTS

THE KAWNEER COMPANY  
1626 FRONT ST., NILES, MICHIGAN  
Send Book of "Suggestions  
For Modern Store Fronts."

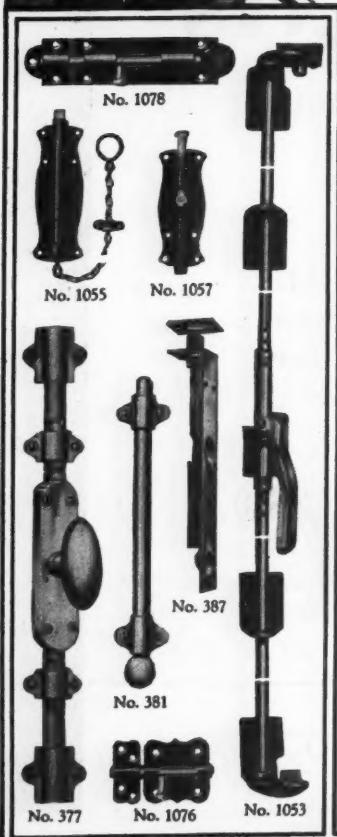
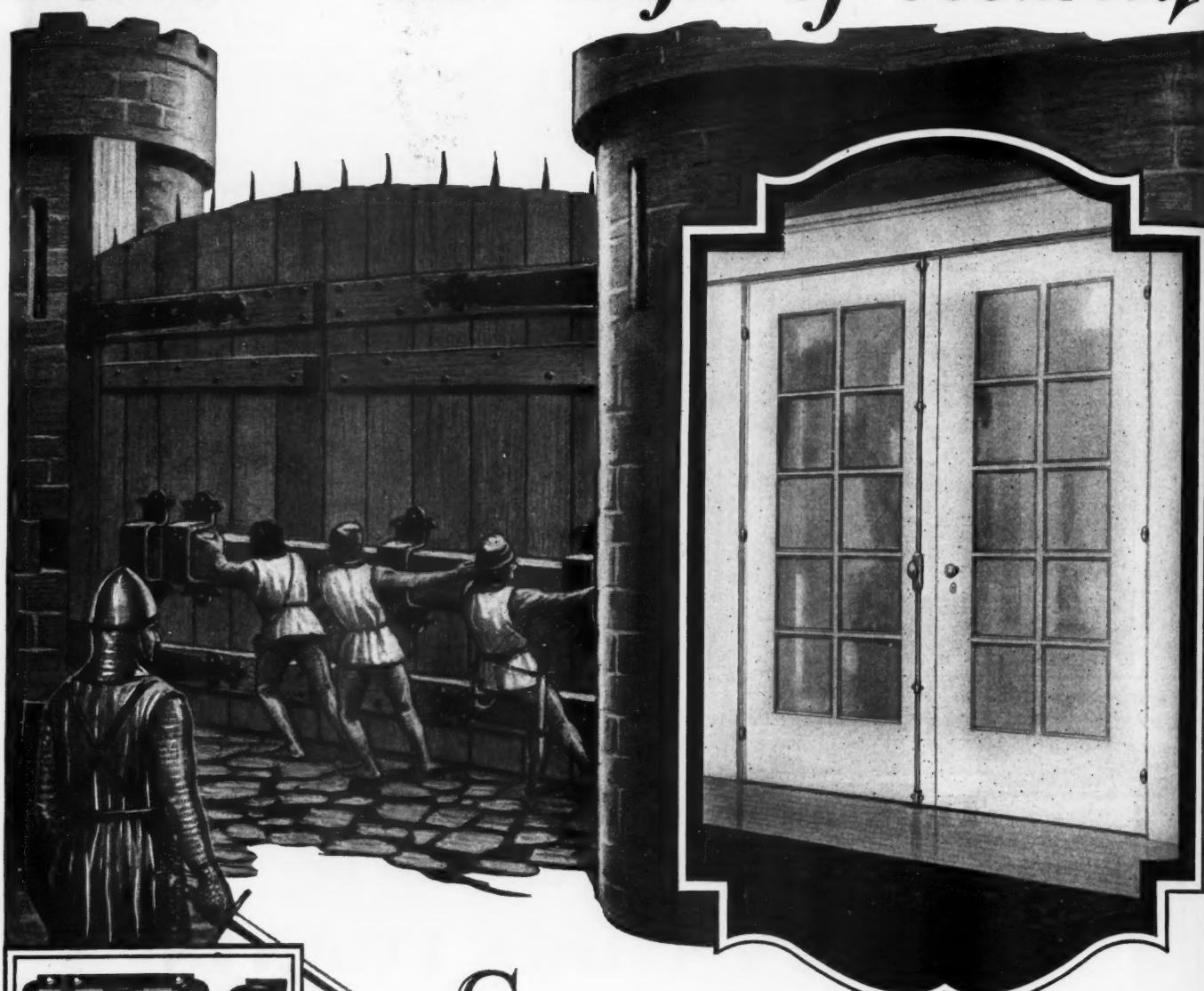
Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

# Bolts . . . the Sign of Security



SINCE time immemorial, Bolts have signified the barrier against danger. Whether it be the huge cumbersome bar of the ancients or the simple attractive design of today, their purpose has always been the same.

Stanley has been making door bolts for over 80 years in designs to meet the requirements of each period. Whether it be for residence, garage or warehouse you will find a Stanley Bolt that fills your requirements.

The full line of bolts are shown in Stanley Catalog No. 41m. Let us send you a copy.

THE STANLEY WORKS  
New Britain, Conn.

**STANLEY HARDWARE**  
MADE OF STANLEY STEEL



# 2 Beautiful new designs in **MORTON** MEDICINE CABINETS

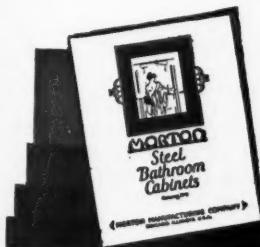
**N**EW Style—New Etching—New Construction . . . all are now available in the improved Venetian, Model F, Morton Medicine Cabinet, shown at the top of this page. New features include a piano type hinge with a special arrangement of the hinge and door which permits easy removal and replacement of door whenever necessary. A new cushion-type door renders the mirror virtually unbreakable. A beautiful cabinet, made in four standard sizes, four roomy shelves five in. deep, finest mirrors, artistic etching and metal rosettes, special bulb-edge plate glass shelves, steel construction throughout with white enamel permanently baked on.

#### *The New Modernistic*

The new Modernistic model in Morton Medicine Cabinets meets the popular demand for color in the bathroom. The mirror is decorated in green and black, with silver flowers delicately interwoven in the designs at the top and bottom of the mirror. The graceful contour of the mirror, the beveled edge, the harmonious color scheme, the attractive yet inconspicuous metal rosettes, the large clear vision, all combine to make an exceptionally beautiful medicine cabinet for modern bathrooms. Available in four standard sizes at slight additional cost over the new Venetian.

#### *Nationally Advertised*

Morton Medicine Cabinets are widely advertised in such well known magazines as Saturday Evening Post, Literary Digest, American Magazine, Good Housekeeping and House and Garden. Morton Medicine Cabinets are made in 11 models, all reasonably priced. Shipped ready to install, "Out of the carton into the wall." Mail the coupon for FREE 24-page illustrated catalog.



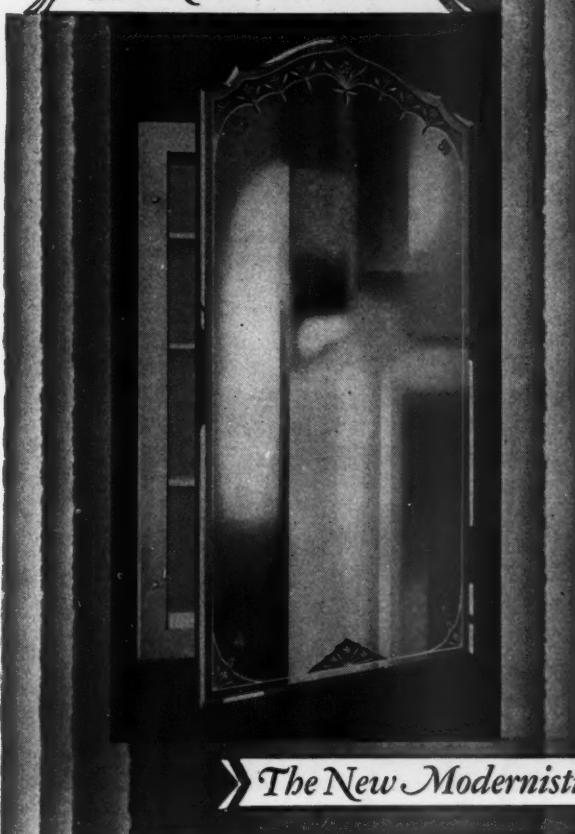
THIS  
BEAUTIFUL  
CATALOG  
FREE  
including  
installation  
details.  
Mail the  
coupon.



Please Check:  Architect  Builder  Contractor  Realtor  Home Builder



*The New Venetian*



*The New Modernistic*

# You can turn these uncertain house hunters into MR. and MRS. BUYER

YOU constantly see house hunters wandering in a perplexed manner from one development to another. Their problem is how to decide which one of many houses to buy . . . What big attraction will settle the question for them?

You can *hold* uncertain people to the house in which you have installed real tiles—Keramic Tiles. Put

real tiles in the bathroom, and in one or two additional rooms, and you get prospects interested on the spot. The rare charm and distinctiveness that real tiles add to the rooms make selling easy.

For nothing is so capable as Keramic Tiles of giving the beauty and color wanted in the interiors of the homes of today. Notice how

wives, and husbands, too, enthuse over the attractiveness of Keramic Tiles in kitchen, pantry, sun room, living room!

Home seekers value Keramic Tiles, also, for their endurance and convenience. Real tiles are well known to be the best-wearing wall and floor material obtainable. Only to examine the excellently made Keramic Tiles is to realize that they will last, almost forever.

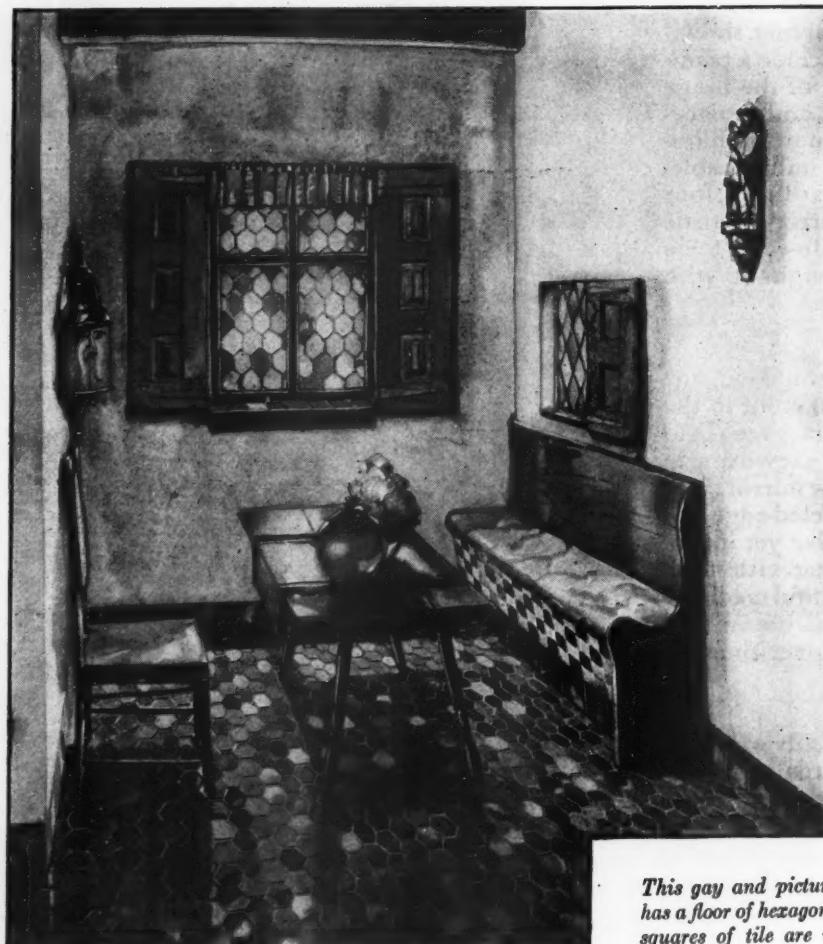
And the housewife takes *special* delight in real tiles because they are easy to clean, and are always fresh, new looking.

Plan on using real tiles for the floors and walls of *several* of the rooms in the next home you erect. No matter what is the type of the building—large or small, simple or pretentious, private home or public building—Keramic Tiles will be found perfectly appropriate.

Your local tiling contractor can give you helpful suggestions.



**YOU DERIVE** the greatest benefit from Keramic Tiles when the tiles are set by experts. Their skilled workmanship is instantly apparent. Select your tiling contractor on the quality of his work.



*This gay and picturesque French Provincial breakfast nook has a floor of hexagonal faience tiles in warm rich hues. Bright squares of tile are introduced into the characteristic bench.*

**ASSOCIATED TILE MANUFACTURERS, 420 Lexington Avenue, New York, N.Y.**

ALHAMBRA TILE CO.  
AMERICAN ENCAUSTIC TILING CO., Ltd.  
CAMBRIDGE TILE MANUFACTURING CO.  
FEDERAL TILE COMPANY  
FRANKLIN POTTERY  
GRUEBY FAIENCE & TILE CO.

MATAWAN TILE CO.  
THE MOSAIC TILE CO.  
NATIONAL TILE CO.  
OLEAN TILE CO.  
THE C. PARDEE WORKS  
ROSSMAN CORPORATION

STANDARD TILE CO.  
THE SPARTA CERAMIC CO.  
UNITED STATES ENCAUSTIC TILE WORKS  
UNITED STATES QUARRY TILE CO.  
WHEATLEY TILE & POTTERY CO.  
WHEELING TILE CO.

**K E R A M I C   T I L E S**

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE



# Women choose homes today with ease and beauty *wired in*

Women . . . the builder's ultimate customers . . . know the comfort, convenience and beauty that electric service can bring to a home. Thousands of them everywhere nowadays have learned that the General Electric Wiring System provides those qualities. Its name on a house helps them picture for themselves rooms such as this . . . and the house immediately takes on new value.

Strong advertising for years has taught them that the General Electric Wiring System means switches that are handy and plenty of outlets properly located for lamps and appliances. A house in which it is used

promises ease and decorative charm. It *invites* women.

The General Electric Wiring System simplifies planning, wires dependability into property, protects against waste in wiring construction. But its final duty is to help sell homes . . . mainly by pleasing women. Its success is noteworthy.

Every dollar a builder invests in a General Electric Wiring System helps reduce property selling costs . . . quickens capital turnover.

Write to Section W-127 for a booklet important to you: "House Wiring Data for Builders."

# GENERAL ELECTRIC WIRING SYSTEM

MERCHANDISE DEPARTMENT · GENERAL ELECTRIC COMPANY · BRIDGEPORT, CONNECTICUT



This paneled room from the Hampton House in New Hampshire has drawn favorable comment from many architects and contractors. It is preserved in The Metropolitan Museum of Art.

## A Pine-Paneled Room from Colonial Days

**T**HE mellow beauty of pine paneling commends it to architects and builders of discriminating taste today. The paneled bed room shown here is only one of many interesting treatments being used in modern homes.

Shevlin Pine for such paneling or for sturdy exterior use may be obtained from leading lumber dealers in a choice of five varieties at a wide range of prices.

Pine of the selected Shevlin Quality smoothly milled, carefully seasoned and rigidly graded is available in Shevlin Northern White Pine, Shevlin Ponderosa

Pine, Shevlin Norway Pine, Shevlin California White Pine and Shevlin California Sugar Pine.

There is a plentiful supply of Shevlin Pine for today and generations to come. Vast tracts of choicest timber owned by the makers of this selected pine are now being conserved through selective logging. Write for the booklet, "Specify Shevlin Pine."

**Shevlin, Carpenter & Clarke Company**  
903 First National-Soo Line Building, Minneapolis, Minn.  
Chicago Sales Office: 1866 Continental & Commercial Bank Bldg.; San Francisco Sales Office: 1030 Monadnock Bldg.; Toronto, Ontario, Sales Office: 606 Royal Bank Bldg.; Sold in New York by N. H. Morgan, 1205 Graybar Building.

**SHEVLIN PINE**

## An Engineering Marvel

Compact and efficient, this machine embodies the principle of "line production," giving it almost unbelievable capacity. Almost any building may be used for working quarters.



# Let us send this sample tile and book

Let us place in your hands the means of measuring the great manufacturing opportunity now offered in Duntex. Examine this wonderful product—the Duntex roof tile—show it to architects and experienced builders in your territory. Note the combination of permanence and beauty, fire-safety and low cost. See its rugged texture, its range of 12 rich, distinctive colors—features never before combined in roofs at any cost.

When you see that this product will indeed make "The World's Most Beautiful Roof"—when you learn from the book, "DunTex, a chain manufacturing opportunity," just what chain manufacturing really means—when you discover what a tremendous market is spread out at your very feet—and when you understand that this great opportunity is offered to you now, for the first time, right here in your own city—then you will know that the two cents spent in returning the coupon was the best investment you ever made in your life.

You will find a machine (shown and described in the book) which is declared by engineers to be a marvel of mechanical perfection. Entirely automatic, and embodying the well known features of "line-production," raw materials enter at one end and emerge as perfect tile from the other. A roof a day output!

And your profits? One man, operating a machine at approximately 40% of its capacity, can easily show earnings

in excess of \$1000 per month. Worth while, isn't it! All this is made available to you on a plan whereby the plant is paid for out of earnings. All that we require is a modest initial investment for the protection of the industry and an indication that you are the caliber of man we seek.

Only our absolute faith in Duntex makes this liberal plan possible—faith in the product, in the manufacturing profit, in the market, and in the man selected right in your own city. After 25 years of leadership in the field, we back this latest manufacturing opportunity with a plan and a service enabling any man with ambition to achieve success and independence. There are no strings attached to our offer.

You pay no royalties. You start at once to make money for yourself. You make a trademarked product—your territory is fully protected by franchise—you are beyond the reach of competition. And to make your success doubly certain, personal service and a strong advertising campaign constantly bring the product and its superiority before its great and steadily growing market.

This, briefly, is the opportunity made available in Duntex.

Send in the coupon for a sample tile. Show it to architects, contractors and builders. Read the book, investigate every angle, get the opinion of your banker on this amazing new chain manufacturing opportunity.

**LARGE EARNINGS  
bring you  
MANUFACTURING  
INDEPENDENCE**

**USE COUPON  
for sample tile  
and book**

W. E. DUNN MFG. CO.  
430 West 23rd St.  
Holland, Michigan

Send me sample "America's Most Beautiful Roof," and book fully descriptive of Duntex, the manufacturing opportunity it offers, and how the plant pays for itself from earnings.

Name.....

Street.....Address.....

# DUNTEX

*The World's Most Beautiful Roof*

# Copper Water Tubing

*- a NEW Chase product*  
**for**  
**easy and cheap replacement**  
**of Rusty Water Pipes . . .**

- 1. FLEXIBLE** - It runs between walls and around corners like electric wiring, and yet it is hard enough not to dent or flatten easily.
- 2. STRONG** - It will stand over 3000 lbs. water pressure. (Average city water pressure 30 to 120 lbs.)
- 3. FREEZE-PROOF, HEAT-PROOF** - Freezing water will expand it without cracking. Will stand water up to 400° Fahrenheit. (Water boils at 212°).
- 4. CAN'T RUST** - Made from 99.9% pure Chase copper which positively cannot rust.
- 5. AND CHEAPEST!** - Because it is used in long lengths, it eliminates useless fittings, and saves useless cutting into walls and floors that are expensive to replaster, retile and repaint. The total replacement cost is cheaper than any other kind of water pipe!



*The copper tube plumber travels light—a few tools are all he needs. No heavy threading equipment to truck to the job.*

Now it is easy and inexpensive to replace every slow-running rusty water pipe—with Chase Copper Water Tubing.

Listen in on this man asking his plumber about it. He brings up many of the questions you might want to ask.



*Question*—"What is this Chase Copper Water Tubing?"

*Plumber*—"It's a copper pipe made flexible enough to bend easily, and thick and strong enough to stand twenty-five times any city water pressure!"

*Question*—"Just how thin is it?"

*Plumber*—"It's no thinner than an ordinary



brass pipe where it's threaded. But Chase Copper Water Tubing is used with a special Chase fitting and doesn't need threading so it doesn't need the extra thickness that threaded pipes must have."

**Question**—"What kind of a fitting does it use?"

**Plumber**—"Chase has designed a special red-brass fitting of much the same type that has been used successfully for many years in automobile gas and oil lines. This is the fitting that has been successfully used with Chase Copper Water Tubing in all our tested house installations."

**Question**—"Will it hold as tight as an ordinary threaded fitting?"

**Plumber**—"Yes. It would take a pull of nearly 3000 lbs. to break the tube and fitting apart."

**Question**—"Any chance to loosen the fitting by vibration, or moving in any way?"

**Plumber**—"No. This has been fully tested and in fact the results show the joint is a lot stronger than rigid pipe."

**Question**—"How about the copper tubing? Will it sag or bend too much?"

**Plumber**—"No. I've seen a lot of it installed and there's never been a bit of trouble that way. It can be bent but it won't bend if you see what I mean."

**Question**—"Will it bulge or stretch from too hot water or air in the pipes?"

**Plumber**—"Not a chance. The only change possible is for the pipe to expand slightly, if the water inside the pipe is frozen."

**Question**—"Why do you say it's specially good for replacement?"

**Plumber**—"Because you can run it down through the wall like an electric wire without having to cut into the plaster to make a lot of connections."

**Question**—"All this sounds pretty good. What are the bad things about it? Why hasn't it been used before?"

**Plumber**—"I don't know. Perhaps be-

cause a manufacturer has never produced a complete line of guaranteed, trade-marked fittings, and tubing, and started in to tell people about it as Chase has."

**Question**—"Suppose a plumber never installed any before. Could he do it easily the first time?"

**Plumber**—"Yes, it's a cinch. Really a lot easier than making threaded connections."

*A couple of floor boards are lifted up, the copper tubing is run across to the basin. Instead of elbows and joints it bends around corners. The photograph shows the plumber flanging the tube for the Chase fitting.*



**Question**—"Is it better than brass pipe?"

**Plumber**—"No. But it is particularly adapted for replacements where it's hard to work inside walls and

not much room to make joints."

**Question**—"How does it compare in cost with other pipes?"

**Plumber**—"The cost of the copper tubing and red-brass fittings is more expensive than the cheapest *rustable* pipe and fittings. But because it's easier to replace with long lengths of copper tubing and fewer fittings, and with very little cutting into walls and floors, it is actually cheaper in the end than any

other water pipe there is! And you get water pipes that will last and last and last, and always give you good clear water."

**Why not find out more about it?**

Chase Brass & Copper Co.  
Waterbury, Connecticut



Please send me, free, your illustrated book "CHASE COPPER WATER TUBING FOR EASY REPLACEMENTS"

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
\_\_\_\_\_

**CHASE**  
Chase Copper Water Tubing is Chase-marked every 12 inches. Each Chase Red-Brass fitting carries the Chase-mark. Both are fully guaranteed. Stocks are kept in thirteen Chase warehouses for our distributors' convenience.

**CHASE BRASS & COPPER CO.—INCORPORATED—WATERBURY, CONN.**

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



Here's the way the women are getting better acquainted with Schlage Locks. Every month House and Garden, and the American Home are carrying the message to over 300,000 prospective home-owners.



## At no increase in costs . . .

*you can meet the demand for "something different"*

They're new . . . different . . . more convenient . . . more attractive . . . that's what your prospects want . . . that's what they get with Schlages . . .

That's why many of the largest builders in the country install Schlage Locks exclusively.\*

These unit-type locks cost you no more than any good mortise lock. And besides! . . . you save about 70 per cent on installation cost . . . you can install 4 Schlages to 1 mortise . . .

Bore 2 holes . . . insert lock and latch units . . . and tighten up on 2 screws. No assembling. No mortising.

They stay put! . . . the lock is bound to the door by two steel plates that grip it like a vise. The knob, rose and spindle become an integral part of the door itself. No wobbly knobs. No loose screws.

Other new, outstanding features of Schlage Locks are described for you in the catalogue. Mail the coupon for copy . . .



*Can you imagine a modern bathroom without them . . . ?*



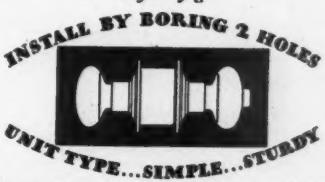
**to LOCK**  
*press the button*  
**to UNLOCK**  
*turn the knob*

Privacy at the quiet touch of a button. No keys to turn. A mere glance at the button—across the room—shows if the door's locked. . . And there are perfectly stunning designs and finishes to choose from—in colors, too. This is truly the cleverest lock you've ever seen. Yet, it's one of the simplest. There is a minimum of working parts, and they are all held together permanently by a new principle. They stay put! So you're never annoyed by wobbly knobs and loose screws. Surely you'll want Schlage Locks throughout your new home. Millions are already in use all over the world. Even in the palaces of kings. Actually! They cost less than any other high-class lock. Talk to your architect or contractor about them (say Slay-g).

# SCHLAGE

**THE NEW PRINCIPLE IN LOCKS**

*Say Slay-g*



SCHLAGE LOCK COMPANY • SAN FRANCISCO, CALIFORNIA  
Please mail me information

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Company \_\_\_\_\_  
Address \_\_\_\_\_

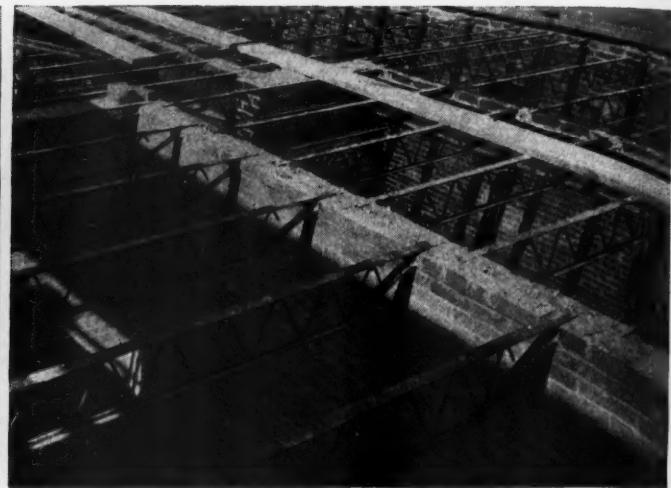
147

# GENFIRE

## FIRESAFE BUILDING PRODUCTS



Doublemesh Herringbone Metal Lath—the ideal base for firesafe, permanent, crackless plaster.



Genfire Steel Joists for economical fire-proof floor construction. T-Bar, Plate Girder and Nailer Types.

### ◆◆ What's Your Bid?

The consideration which is given to your bid often depends on the products in your estimate. By selecting the best materials for a job, you indicate your intention to do quality work. The use of Genfire Building Products identifies you as a select

contractor. What's more—you can use them so economically that your bid will be attractive in price. You secure from one source all the firesafe products required in the building, saving in freight charges, handling expense and time of delivery.

**GENFIRE STEEL COMPANY, YOUNGSTOWN, OHIO**  
Warehouses and Offices in all Principal Cities. Dealers Everywhere



Rigideck, the light weight, fireproof roof deck. Laid like boards. Made of rust-resisting Armco Ingot Iron.



Genfire Steel Casement and Basement Windows have been selected for all Model Homes sponsored by the Home Owners Institution.

## BURN OIL

# SAVE TOIL

**The Underwriters' Laboratories put their stamp of approval on every Piatt Heater.**

Get ready for the  
Piatt Heater de-  
mand by asking  
for mechanical  
layout and oper-  
ating details.



# MAKE HOMES SELL EASIER

## Safe—Economical—Automatic Hot Water

Make a special sales feature of hot water convenience by telling prospects they will have a Piatt Oil-Burning Water Heater. That settles all questions of safety, automatic operation, attentionless service, reliability of supply and economy—making your sales problem much simpler.

The Piatt comes in sizes to meet practically any capacity need. No specially skilled labor is required to set it up. Hook it to the furnace oil supply and it's ready to work for you.

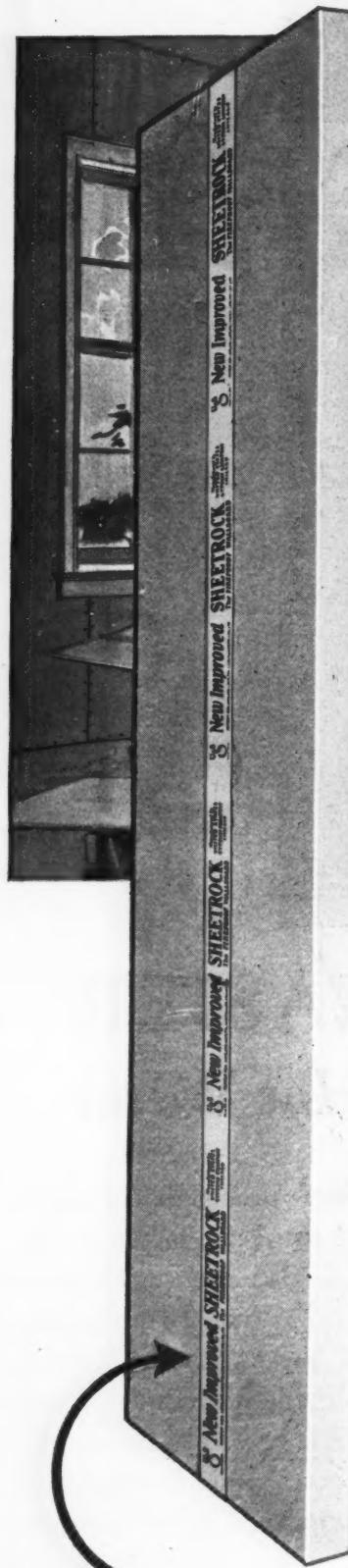
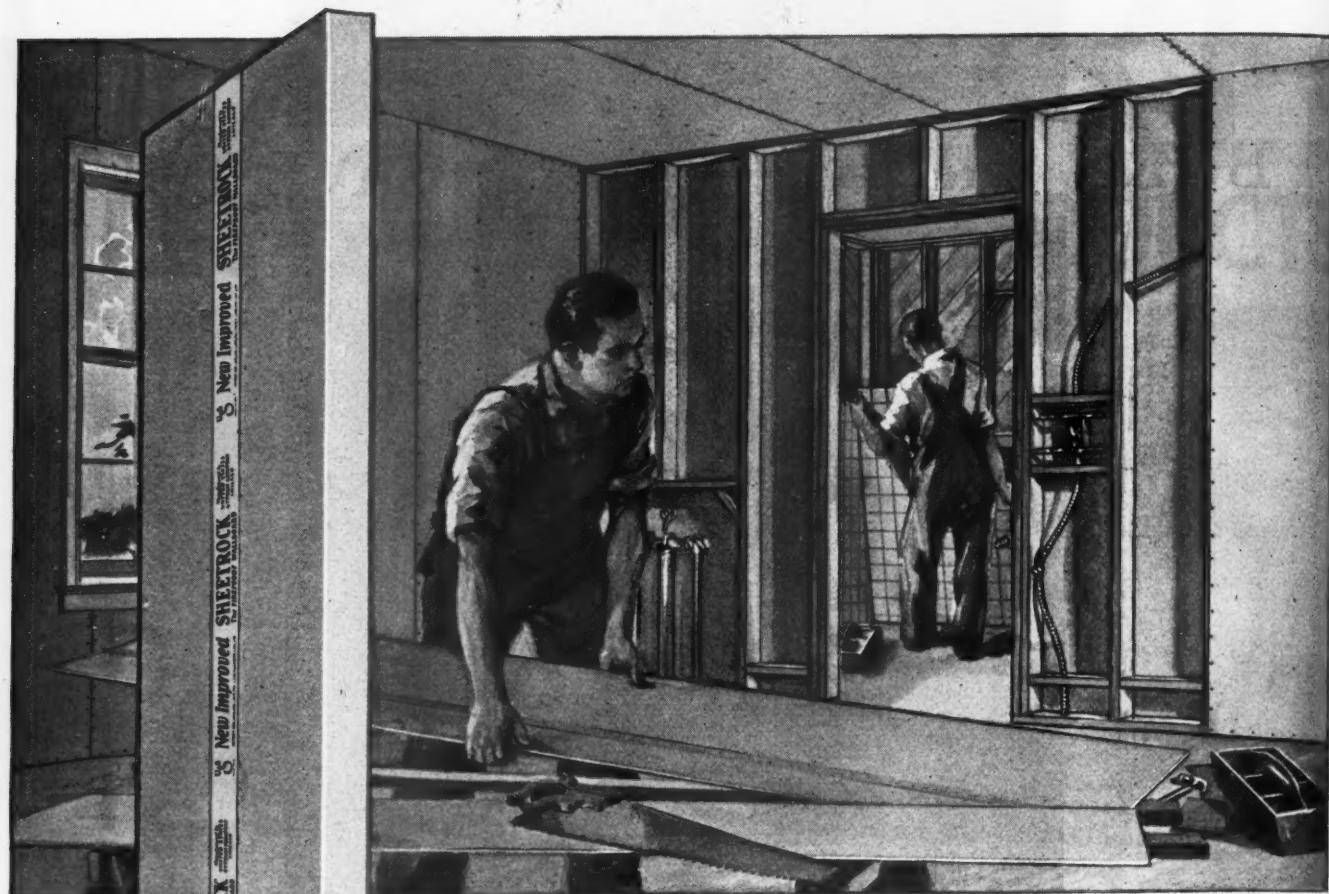
Skilled engineering and precision manufacturing have removed the Piatt far from the "make-shift" class. A glance reveals the attractive Piatt lines and color. Investigation reveals the cast iron Piatt patented burner and other durable construction. But only use can reveal the convenience of Piatt automatic, care-free service that is safe and economical—results of the Piatt principle of combustion.

**MOTOR WHEEL CORPORATION**  
Heater Division      LANSING      MICHIGAN

# PIATT OIL BURNING made MOTOR WHEEL APPLIANCES by CORPORATION

IN YOUR WRITING ADVERTISERS, PLEASE MENTION THE AMERICAN BUILDER

# WE ANNOUNCE



... at no added

**S**HEETROCK has pioneered many basic improvements in plaster wallboard. Further advancements are here announced.

Foremost among them is a new, close-grained, highly calendered surface—of *ivory color*.

This new Sheetrock surface is *tough* . . . highly resistant to scuffing and abrasion. It reaches the job as it leaves the mill . . . uniform and unmarred . . . a proper surface for beautiful decorative effects.

Light colored paints applied over this improved surface retain their natural clarity and freshness. They dry out evenly, due to uniform absorption.

They also spread farther, due to the density of the new surface. Thus beauty is enhanced and decorating costs are reduced.

The improved Sheetrock is now *stronger* than ever. The tough, ivory-colored surface with important core improvements produces increased strength and flexibility in the board. Handling and applying are made easier.

Improvements have also been made in the nailing edges. Now they are not only square but uniformly thick. Panels of the *new* Sheetrock can be so applied that edges join evenly and smoothly . . . making a perfect wallboard job.

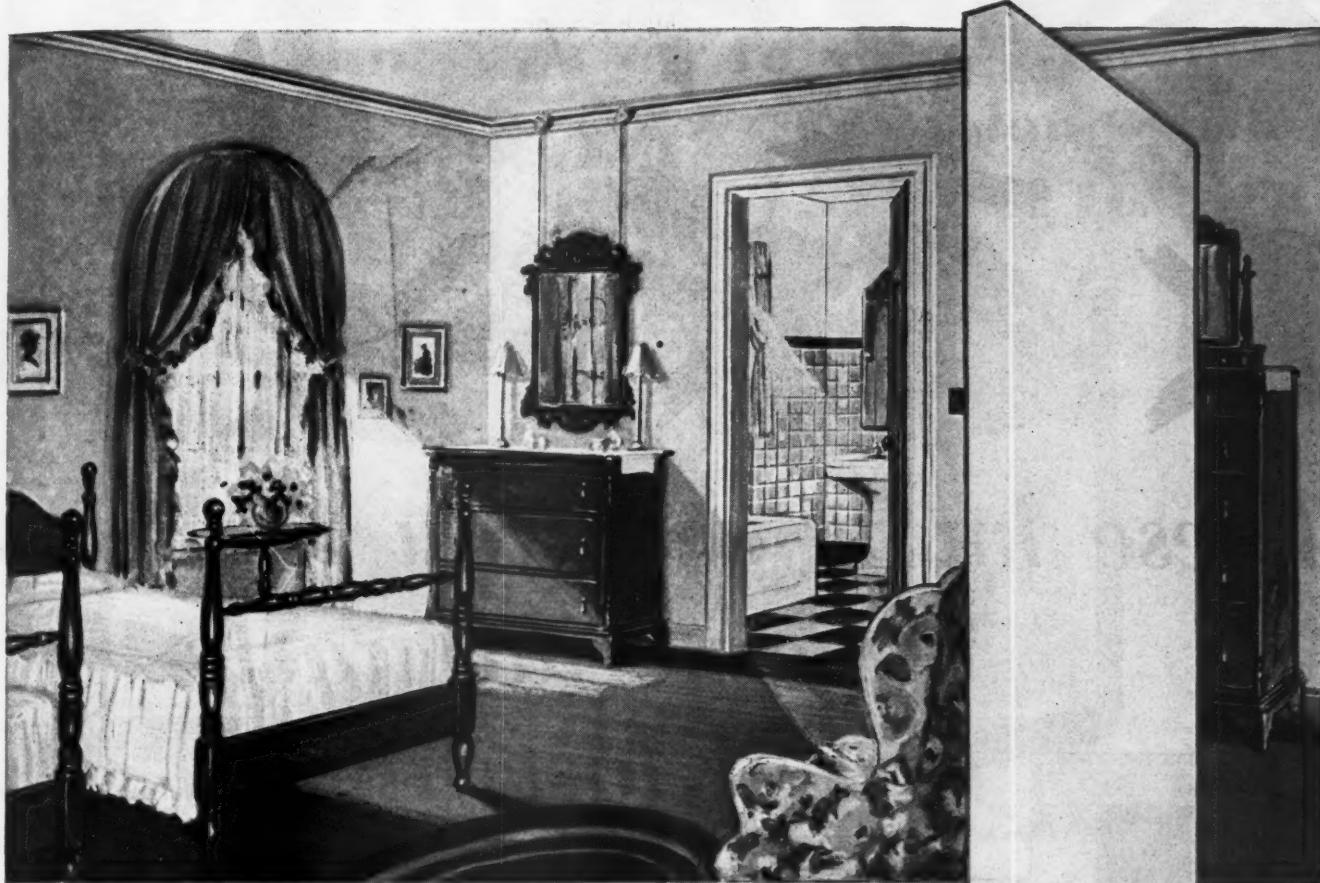
In addition, Sheetrock now is a bet-

# SHEET

THE FIREPROOF

*The distinctive marking bearing the USG trade-mark and the words "NEW IMPROVED SHEETROCK," on the back of each panel, is for your protection.*

# IMPROVEMENTS



*cost to you . . .*

ter insulator, due to an improved gypsum core of more cellular structure. Board ends are cleanly cut. The exposed core is given a special hardening treatment.

These improvements, naturally, add to our manufacturing costs. Yet they are incorporated in the new Sheetrock *at no added cost to you*.

For your protection and guidance, the new, improved Sheetrock carries the distinctive Red Stripe on the back of each panel—as illustrated to the left. Look for and demand it.

The new, improved Sheetrock still retains all those features that earned it leadership in the wallboard industry.

If you are building or remodeling, see this improved Sheetrock. It is distributed by leading dealers in lumber and building supplies everywhere.

For treating joints, Sheetrock Metal "A" Joint Reinforcement is recommended. Strengthens joints against cracking. Permits smooth, unbroken decoration over entire wall or ceiling areas. For tile-effects at low cost, use the new Sheetrock Tile Board. Deep, clean-cut indentations. Easily and inexpensively decorated.

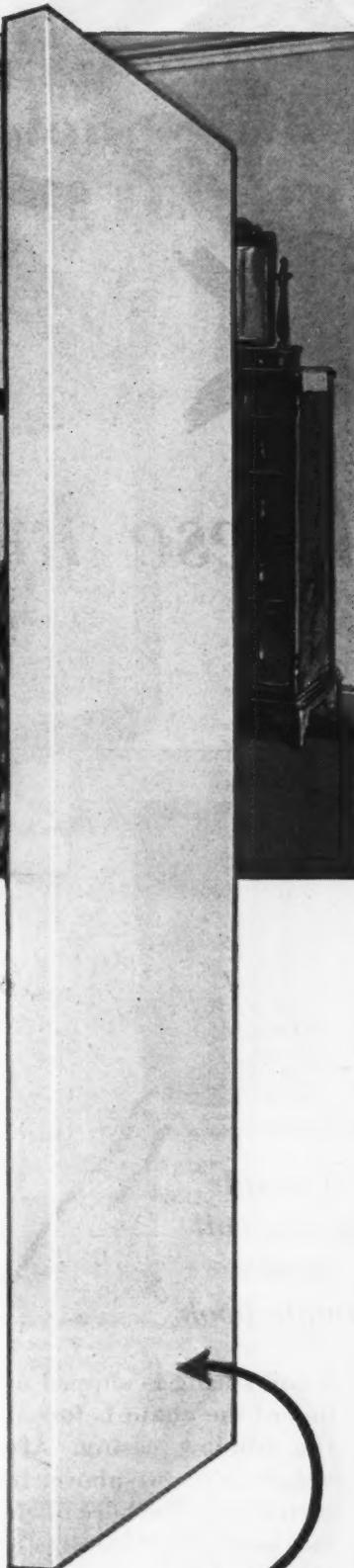
#### UNITED STATES GYPSUM COMPANY

Department 1A

General Offices: 300 W. Adams St., Chicago, Ill.

*Sole Canadian Distributor:*

Canadian Gypsum Company, Limited  
Hillyard Street, Hamilton, Ont.



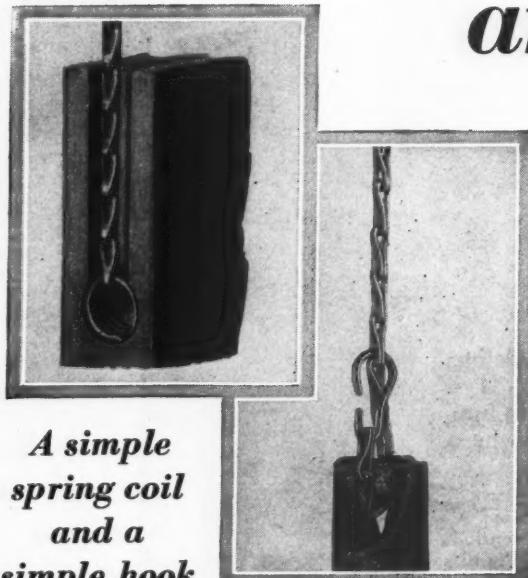
*The new ivory-colored surface takes any type of decoration. Especially adaptable to modern treatments with TEXTONE, The Plastic Paint*

**ROCK** **WALL BOARD**

(Reg. U. S. Patent Office)



# *These knots cost you money— in material waste and lost time*



*A simple  
spring coil  
and a  
simple hook*

A coil spring is slipped over the end link of the chain before it is fed into the window casing. After hooking weight as shown above, the coil is inserted into the bore of the sash. For two hole sash the coil is inserted into the upper bore.

## **Install ACCO No. 8 Sash Chain at less cost per window**

56 inches of cord is wasted per window—4 single knots and 4 double knots. With ACCO No. 8 Sash Chain there are no knots. Weights and sash fasten with simple attachments, making it possible to hang *seven* windows per 100 feet with ACCO Chain as against only five with cord.

### *—a better, longer lasting installation*

ACCO No. 8 Sash Chain is copper-bearing steel. Fireproof. It cannot stretch or shrink. Rot or fray. It lasts a lifetime, without trouble or bother of replacement.

### *—without any change in pulley construction*

ACCO No. 8 Sash Chain operates perfectly over ordinary semi-circular grooved cord pulleys—it isn't necessary to order special pulleys for use with ACCO No. 8 Sash Chain.

**AMERICAN CHAIN COMPANY, Inc.**  
BRIDGEPORT, CONNECTICUT

*District Sales Offices: Boston, Chicago, New York, Philadelphia, Pittsburgh, San Francisco*

*In Canada: Dominion Chain Company, Limited,  
Niagara Falls, Ontario*



# **Use ACCO No. 8 Sash Chain**

# Confidence

you can pass on to your customer  
goes along with  
**4 SQUARE LUMBER**



This sign of CONFIDENCE  
identifies the  
4-SQUARE DEALER

WHEN you buy 4-Square Lumber from a 4-Square Dealer you know *exactly* what you are getting. Every package has been marked at the mill with the *species* and *grade*. You know what you are *buying*—you can prove to your customer what you are *selling*.

National advertising is carrying the meaning of 4-Square into millions of homes and the use of 4-Square is rapidly becoming known as the sign of a reliable contractor.

Leading contractors and builders say

that never before have they found so sure a way to gain the confidence of their customers as by pointing out their use of this lumber of *known* and *identifiable* quality and value.

Progressive lumber dealers everywhere are hanging out the 4-Square sign. If yours is not yet ready to supply you, write us.

**WEYERHAEUSER FOREST PRODUCTS  
ST. PAUL, MINNESOTA**

Weyerhaeuser Sales Co., *Distributors*, Spokane, Washington  
*District Offices*: Minneapolis, Kansas City, Chicago, Toledo, Pittsburgh, Philadelphia, New York

# 4 SQUARE LUMBER

*Species and Grade are Marked and Guaranteed*

**TRIMMED SQUARE.. PACKAGED.. READY TO USE.. GUARANTEED**

**SOLD BY 4 SQUARE DEALERS**

# KEEP YOUR CATALOG FILE UP-TO-DATE

New appliances, materials, machinery and equipment are constantly being brought out and perfected by manufacturers. Your file should contain the latest catalogs of these articles. When a client asks you about some new improvement—you have the information at your finger tips. Perhaps you contemplate enlarging your scope of activity—your catalog file will contain suggestions as to the machinery or equipment best suited to your needs.

## *What Information Do You Need?* **American Builder Will Get It For You**

If you are interested in power shop equipment, heating systems, plumbing supplies, water supply systems, lighting systems, elevators, school or church or theatre equipment, farm building equipment, building hardware, home conveniences or anything that is used in constructing or equipping any kind of building—the American Builder will help you get all information. Just send the coupon below telling us in what you are interested.

## **ABSOLUTELY FREE TO AMERICAN BUILDER READERS**

The American Builder Service Department will gladly put its readers in touch with reliable manufacturers of appliances, machinery, tools, building materials and supplies of every description. In order to get the best and quickest results, please be sure to print or write your name and address plainly and also check your occupation in the coupon below.

### **THIS COUPON WILL BRING YOU ALL INFORMATION**

AMERICAN BUILDER, 105 W. Adams St., Chicago, Ill.

JULY

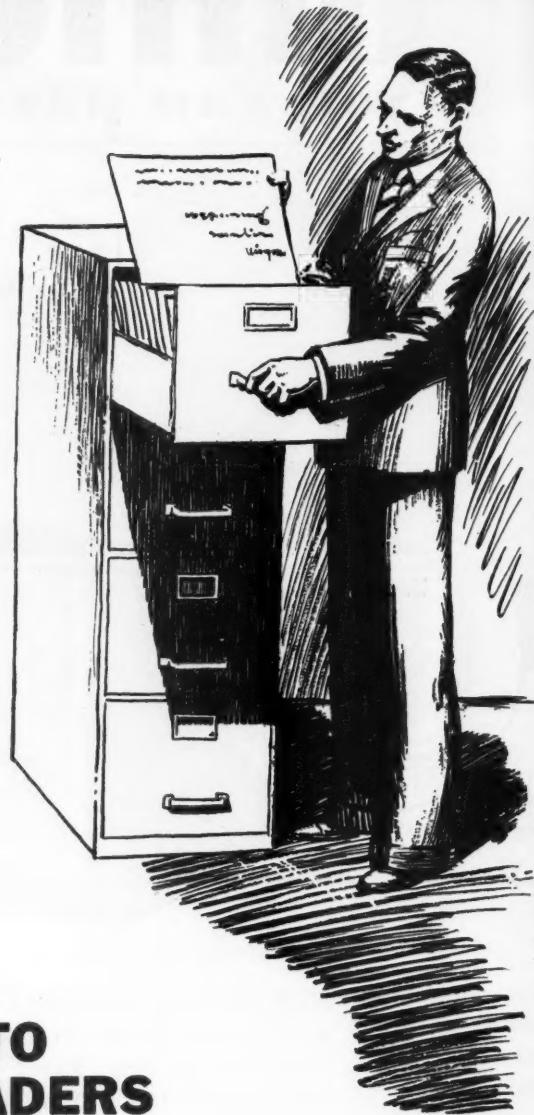
Gentlemen: Please put me in touch with manufacturers whom you know to be reliable and can furnish goods promptly. I am in the market for the following items:

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Name.....

Address.....

Please check your occupation. Building Contractor  Dealer in Building Materials  Prospective Home Builder  Architect



## THERE'S A NATIONAL HEATING SYSTEM FOR EVERY BUILDING NEED



Playroom



Bed Rooms



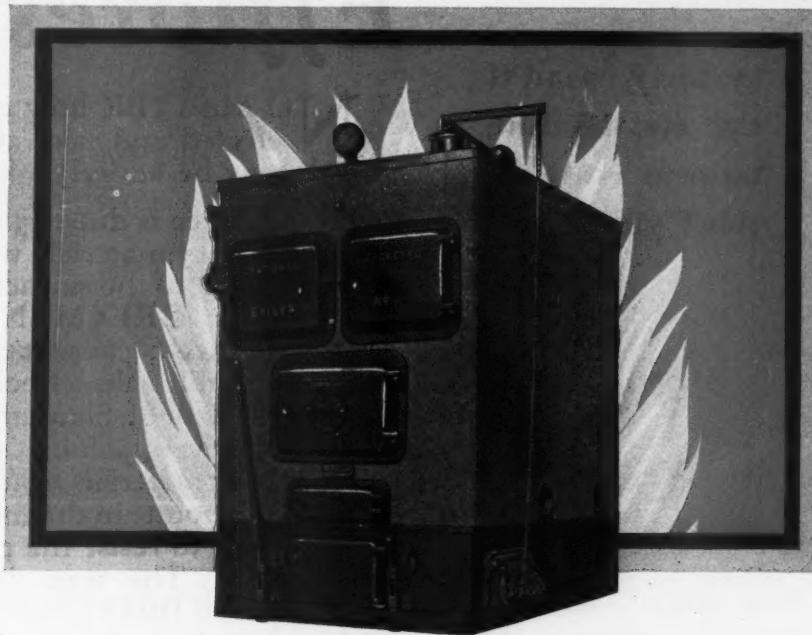
Grandma's Room



Bath Room



Living Room

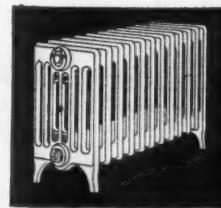


### Quality—Hidden From Inspection But Apparent In Operation

Jacketed attractively for eye-appeal, the National Jacketed Boiler's chief claim to esteem is in its demonstrated quality. Quality built-in, hidden away, but expressing itself in outstanding efficiency, and upstanding service. Large grates, deep fire box, properly proportioned combustion chamber, long fire travel, unite to make this boiler easily fired, easy on fuel. Engineering design scientifically coordinates every part. National Bonded Boilers are designed to perform efficiently with all leading types of fuel: coal, coke, oil and gas. They can be converted on the ground to meet the individual requirements of the fuel selected. Each National Boiler is guaranteed—and the guarantee is en-

dorsed by a Surety Bond, issued by The Fidelity and Casualty Company of New York. It covers three distinct guaranteed stipulations as to manufacture, design, performance, and replacement of any defective part. It assures customer satisfaction, protects against criticism or complaint. National Heating Systems are *Made-to-Measure*; that means that the heating requirements of each room are scientifically determined. Then the boiler, the radiators, and the accessories required to establish a balanced system, proportioned in every respect to the need, are selected and installed by the National Heating Specialist.

A line to us will bring you complete and helpful information.



### NATIONAL RADIATOR CORPORATION

*Executive Offices: 55 West 42nd Street, New York, N. Y.*

# NATIONAL *Made-to-Measure* HEATING SYSTEMS

Copyright 1929  
N. R. Corp.

# BRIXMENT Prevents Efflorescence . . .

NO MATTER how carefully the brick are selected and laid, the appearance of the wall may be entirely spoiled by efflorescence.

Efflorescence is due to the presence of salts in the masonry materials which work their way, in solution, to the surface of the wall and there crystallize. BRIXMENT itself never causes efflorescence because it contains less than  $\frac{1}{2}$  of 1% of soluble salts. Recent experiments at the U. S. Bureau of Standards show that the best way to prevent soluble salts which may be in the mortar materials from coming to the surface is to incorporate in the mortar a water-repellent admixture to resist the passage of such salts in solution\*. The wax distillate, a mineral oil mixed with BRIXMENT during manufacture, does just that. Louisville Cement Company, Incorporated, Louisville, Kentucky.

District Sales Offices: 1610 Builders Bldg., Chicago; 301 Rose Bldg., Cleveland; 602 Murphy Bldg., Detroit; 101 Park Ave., New York

## BRIXMENT for Mortar and Stucco



\* See Page 628, Technologic Papers of the Bureau of Standards, No. 370: "Such salts in the mortar materials which tend to appear on a wall surface under favorable conditions may be prevented from so appearing to a very considerable extent by the use of certain water-repellent substances. These substances should be well mixed with the mortar materials."

# PUBLISHER'S PAGE



*Where Readers  
and Editors get  
together around  
the Family Table*

*Outlook from  
Mt. Vernon toward  
the Potomac*

## *The Editors' Outlook*

THERE are many good things in the magazine this month and many more in preparation to appear in August and the months following.

They say that it's hard to get folks to read in the summer time; so our method is to make every article short and snappy with plenty of pictures and diagrams that will tell the story better than type. This is the busy season for builders and it is hard to concentrate during hot weather. Nevertheless, we offer this magazine with confidence, knowing how practical and interest compelling many of its features are.

What do you think of the new size? The AMERICAN BUILDER page has been increased 10 per cent and is now a full 9 x 12 inches. The best of the business publications have adopted this size as standard and the most attractive of the popular magazines have proved the artistic value of the wider margins. Please let us know what you think of this improvement. We want to give you a bigger and better AMERICAN BUILDER filled with just exactly the features that our readers want most.

### **Our Front Cover**

You builders put a lot of thought and study on the front elevations of the houses, apartments and other buildings you erect. We give just as much study to the "front elevation" of this magazine, in other words, our front cover. The design this month is a water color by Quigley of a brick residence in the Georgian style by Arthur Kelly, Architect, Los Angeles. We have had some very flattering comments on this design and on the value of this entire series of authentic architectural details now appearing on our front covers.

Please write us your comments and if there is anything special that you want which our editors can provide, just mention it.

### **The Swing to Apartments.**

Fifty-three and seven-hundredths per cent of the families housed in new homes last year were in apartment or multi-family dwellings, according to

an analysis of the 1928 building permits just issued by the U. S. Department of Labor at Washington. The percentage has been gradually increasing each year. In 1921 a little less than one-quarter of the new family dwellings were in apartments. This percentage has gradually increased until last year more than half of the home building was of the multi-family type.

In line with this trend the AMERICAN BUILDER is presenting a number of feature articles of interest to those planning and building apartments.

At the same time detached homes are and will continue to be a prominent feature of the AMERICAN BUILDER. We present this month eight home designs of the better type, designs of distinction and style. Several of these have been awarded prizes of merit in architectural competitions.

A new feature this month is a group of pen and ink renderings in two colors on tinted art stock. A companion section to this has already been prepared for the August AMERICAN BUILDER, and if our readers generally approve of this style of presentation we will be pleased to continue it. We plan to give you designs by the best architects—homes of real character and class.

### **Public Building Program**

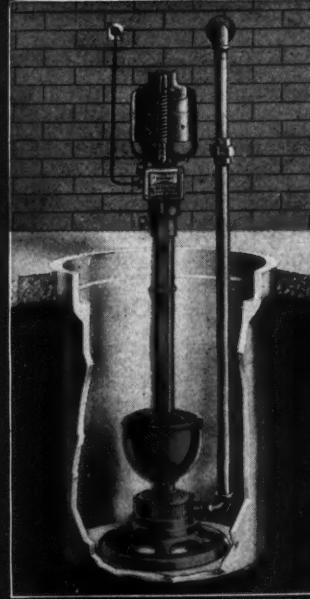
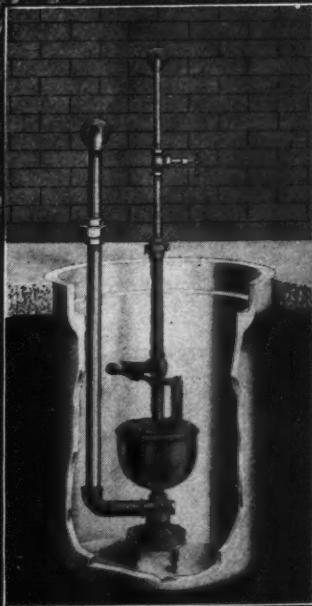
President Hoover has stated that there is a very large amount of public building to be released from time to time when private work slackens. A notable beginning for this program is illustrated in our leading article this month, describing the government's project at Washington which will improve the triangle south of Pennsylvania Avenue and call for the expenditure of \$200,000,000. We all have a sentimental and public spirited interest in such building improvements at the Nation's Capital. Also it is of considerable economic importance to the building industry to have such public work released.

Cordially yours,

THE EDITORS.

**Postscript.**—Don't overlook the Questions and Answers Department. We want you to ride this department hard, and get the value out of it. It is organized for your service and assistance.

# PENREDTHY PRODUCTS





BERNARD L. JOHNSON, *Editor*

105 West Adams St., Chicago—30 Church St., New York City

### Building Situation Is Healthy

JUDGING by the most recently issued building statistics, the industry is going forward at a most satisfactory pace indicative of healthy conditions. Contracts awarded for the month of May, in the states east of the Rocky Mountains, are placed at \$587,765,900. This is a decline of nine per cent from the total for April as compared with a normal seasonal decline of four per cent from April to May.

The most significant decline, however, occurred in the district including the state of New York and Northern New Jersey and was due, apparently, to the recent labor dispute and threatened lockout. The dispute has now been settled and future reports should show a more normal total for this district. In the territory outside this district, the decline was less than two per cent, as compared with the normal seasonal decline of four per cent.

Two other labor disputes have recently been settled, the strike of the structural iron workers, in Chicago, and the dispute between carpenters and employers which was terminated by the signing of a two-year agreement. In each case a settlement has been effected without serious effect on the industry.

This is characteristic of the record of the building industry for the past five years, a record of which the industry well may be proud. In that time there has been no serious labor trouble and there has been a marked tendency on the part of both employers and labor leaders to avoid costly strikes and lockouts. This has, undoubtedly, been an important factor in the outstanding prosperity of the industry during recent years.

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### Model "Garden Village" Planned

AT a recent meeting of authorities identified with the Chicago World's Fair Centennial Celebration of 1933, it was proposed to build and operate a "Garden Village." The Architectural Commission has agreed to set aside sufficient space within the grounds for that purpose. With the final sanction of the Trustees secured, it remains only for competent architects, familiar with community housing projects, to proceed with the details.

According to the tentative plan, the Garden Village will be built to full "life size" scale and comprise from 12 to 20 homes of most modern construction. There will be a town hall, fire station, stores, school, church, recreational center, parks, playgrounds and everything necessary to set up a model village, operated as such in accordance with advanced thought.

It is proposed, too, that each house shall be built and furnished by individual business houses or man-

ufacturers, either singly or jointly. Thus the most approved architecture, construction, materials, furnishings and equipment will be co-ordinated into an exhibit that should interest a host of prospective home owners and those contemplating the transformation of subdivisions into towns and villages.

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### Seek Architectural Standards

IN order to raise the educational standards for architects and encourage high ideals in architectural training, the American Institute of Architects has instituted a program of nation-wide co-operation with universities, libraries, art and technical schools, according to Professor William Emerson, Chairman of the Institute Committee on Education.

Chaotic conditions resulting in great diversity in the length and scope of the courses leading to a degree in architecture exist in schools throughout the country, Professor Emerson, who is head of the Department of Architecture of the Massachusetts Institute of Technology, declares, adding that one of the objects of the work undertaken by the Institute is to clear up this situation which tends to lessen the prestige of the architect and the confidence of the general public.

"Architectural degrees vary as the colors of leaves of the trees in the fall," says Professor Emerson. "There are degrees of every kind, based on every kind and length of college course. The Institute will endeavor to determine the basic essentials and the degrees which can significantly express these different categories of training."

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### Pennsylvania Adopts Welding

AN increase in the use of welding, in the construction of buildings, in the State of Pennsylvania, is foreseen as the result of the passage, by the legislature of that state, of a law which allows this type of construction to be used in first-class cities. The new law gives, in detail, a building code for cities of the first class. In this code is a section giving permission to commissioners of building in such cities to adopt welding as an erection method.

According to Frank P. McKibben, nationally known authority on the use of welding in building construction, such legislation is needed throughout the country. So many successful applications have been made that the process has been removed from the realm of experimentation and its usefulness has been established as a satisfactory tool for constructive effort, not only in structural work but in many other fields.

Numerous municipalities are revising their building codes to permit the erection of welded buildings.

# How Can You Do It?



**Irate Owner:** "You told me I could have the job completed by Saturday. Here it is Wednesday and you are just starting my driveways. How do you expect me to do any business with fresh concrete around my gas pumps?"

**Contractor:** "Wait a minute. I'm putting 3-day Universal concrete in these driveways and they'll be ready in time. Don't worry. You'll have your job when you want it."

### To Every Contractor:

Concrete that is as strong and durable in 3 days as ordinary concrete is in 28 days, is made with standard Universal cement (the same as used for regular work) by using tested methods. Knowing these methods comes in handy on any rush job. Booklets giving full details will be furnished on request. No obligation. Just mail the coupon.



Send the coupon  
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Universal Portland Cement Co.  
208 So. La Salle Street, Chicago  
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Printed with our name, slogan and address  
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One Standard Cement for All Concretes and Mortars  
**Universal Portland Cement Co.**

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**Concrete for Permanence**



# New Buildings at Washington

**President Hoover Lays Cornerstone of New Department of Commerce Building**

**Part of \$200,000,000 Project for Developing the "Pennsylvania Avenue Triangle"**

THE "Triangle Development" at the nation's Capitol is under way, starting a \$200,000,000 federal building program to house adequately the executive departments, and also to rescue Pennsylvania Avenue and to restore that "Avenue of Presidents" to the position of beauty and importance originally intended in the L'Enfant plan.

President Hoover on June 10th laid the cornerstone of the largest of the buildings of this new group, the Department of Commerce Building. This impressive structure is a quarter of a mile long and forms the base of the "Triangle". Then reaching out along Pennsylvania Avenue a full mile toward Capitol hill, and along B Street, the Mall, we get the other two sides of the triangle. All of the land within this triangle has been acquired, and the privately owned buildings will come down.

In this triangle, a mile long, will eventually be grouped all the executive departments, except State, War, the Treasury, Agriculture and the Interior, which are now provided for. As one rides along Pennsylvania Avenue, toward the Capitol, he will pass an imposing facade of government buildings, all constructed to fit a unified plan. Before him will be the dominating dome of the Capitol.

This development will bring the reclamation of Pennsylvania Avenue. The old shacks on the south

side of the avenue and the few respectable office buildings will be no more.

Immediately the value of the land on the north side of the avenue will be so increased that it is reasonably expected that the present aged structures there will come down and be replaced by suitable business buildings of a design which the zoning commission will direct to conform with the general plan.

Already in this triangle there is under construction the new Commerce Building, almost a quarter of a mile long—five Fifth Avenue blocks—to cost \$17,500,000; also further down in the triangle the Internal Revenue Building is under construction. The B Street elevation of this structure will be marked by 24 Ionic columns, three stories in height, much the same as the columns to be used in the Commerce Building.

Authorization has also been obtained from Congress for the construction of the Archives Building, farther down the triangle area, to house the records of the Government. In this same area will eventually be constructed buildings for the Departments of Labor and Justice and for the independent bureaus and commissions now scattered all over Washington.

This ambitious building program is in harmony with the original plan of George Washington and



**The Triangle South of Pennsylvania Avenue as It Will Appear When the Present Program Is Completed. The New Department of Commerce Building Is Shown in the Foreground.**

L'Enfant, the French engineer. L'Enfant planned the location of all public buildings in appropriate architectural settings grouped along a parkway, known as the Mall, connecting the capitol and the White House.

Development under the plan languished for nearly a century, the space between Pennsylvania avenue and the Mall becoming filled with various buildings out of harmony with the L'Enfant program.

During President McKinley's administration a commission was formed to recommend a plan for the development of Washington. It consisted of

Daniel H. Burnham and Charles F. McKim, architects; Frederick Law Olmstead, landscape architect, and Augustus St. Gaudens, sculptor artist. They reported in favor of the original plan, and the present committee of architects, consisting of Edward H. Bennett, chairman, Arthur Brown, Jr., Milton B. Medary, Louis Ayers, William A. Delano and Louis A. Simon is continuing that policy.

The execution of the plan lies with the Secretary of the Treasury, who operates through his supervising architect, James A. Wetmore.

Edward H. Bennett, architect, chairman of the architectural consultants of the treasury department, gives this picture of the future Washington as planned:

"As one proceeds down Pennsylvania Avenue toward the capitol, on the south side will be a succession of beautiful and harmonious buildings, all of a design in keeping with the semi-classical tradition so well established in Washington. On the north side vistas will be opened up, so that groups of buildings, such as the beautiful District of Columbia court house on John Marshall place, shall be brought into the general plan of Pennsylvania avenue.

"At the same time the Mall will present the spectacle of a great park bordered on one side by the new boulevard lined with beautiful buildings, a wide parkway of greensward with its four rows of trees, its drives and walks, statues and reflecting pools, all arranged in such a way that long vistas will be opened up for views of the capitol in one direction and of the Washington monument and Lincoln memorial in the other."

Across the Mall work is in progress on the new structures for the Department of Agriculture. In the Mall, where are now located the Smithsonian Institution, the Freer Gallery and the National Museum, it is contemplated to erect only two more buildings, a National Art Gallery and a Washington Memorial.

The development plans call also for improvements on Capitol Hill, to include the demolition of the temporary structures in Union Station Plaza, which will open up a new view of the imposing Washington



**Secretary of the Treasury Andrew W. Mellon Laying the Cornerstone to the New \$10,000,000 Internal Revenue Building. When Completed It Will Accommodate 4,500 Government Workers.**



**The Archives Building and the Internal Revenue Building Now Under Construction Are Prominent Features of the Capitol End of the Triangle.**

railway station, which was built in harmony with the general design.

Not the least of the improvements about the Capitol will be a building for the United States Supreme Court, which now has quarters in the Capitol.

The money has been appropriated for a site corresponding to that of the Congressional Library across the street from it and facing the east portico of the Capitol. A committee, headed by Chief Justice Taft, is supervising the drawing of plans for the building.

A new building for additional office space for the House of Representatives is planned, as well as the construction of the fourth wing of the Senate office building. A considerable development of municipal buildings for the District of Columbia government is also planned on the north side of Pennsylvania Avenue, between Judiciary Square and the Mall.

Probably the last part of the program to be carried out will be the building of the parkway connecting the Lincoln Memorial with Rock Creek Park. When this is done it will complete a continuous parkway from Mount Vernon to the National Cemetery, across the Potomac, out past the new National Cathedral, which is being built on Mount Saint Alban, and through Rock Creek Park to the Maryland State line, a total distance of some twenty-five miles.

#### **Hoover Approves the Plan**

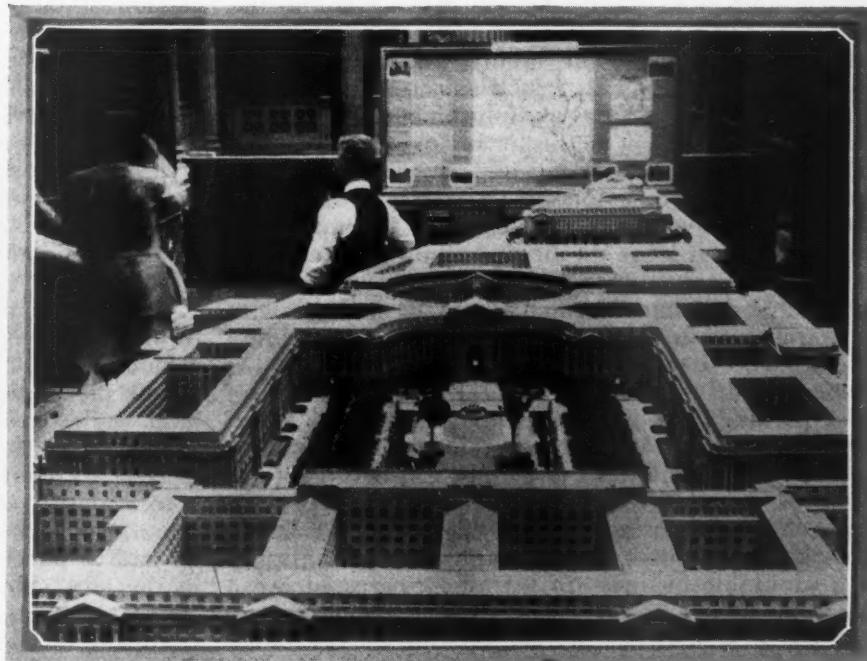
President Hoover is taking an engineer's interest in the consummation of the century and a quarter of hope, and it is regarded as probable that during his administration authorization, at least, will be made for the greater part of the present program.

In a speech recently, at a meeting arranged by the Treasury De-

partment between high Government officials and members of the American Institute of Architects, Mr. Hoover declared his adherence to the plan and stated his enthusiasm for it in these words:

"It is the wish and demand of the American people that our new buildings shall comport with the dignity of the capital of America, that they shall meet modern requirements of utility, that they shall fulfill the standards of taste, that they shall be a lasting inspiration.

"In architecture it is the spiritual impulse that counts. These buildings should express the ideals and standards of our times; they will be the measure of our skill and taste, by which we will be judged by our children's children."



**Models of Most of the Buildings Which Are to Be Constructed on the Capitol's Mall—South of Pennsylvania Avenue, Between the Capitol and the Treasury Building, Washington, on Exhibition Under the Dome of the Capitol.**

# At Last — A Place to Park!

As told by

WILLARD D. MORGAN



*The "Tower" Drive-in Market  
at Glendale, Calif.*

A COMPLETELY new architectural form has been ushered into service with the building of drive-in markets to serve modern motor driven America. Such a development has been the direct result of the increasing traffic congestion which is clogging up the main metropolitan centers of our larger cities. With this increasing confusion during the business hours, thousands of prospective customers are going to the suburban marketing centers to do their shopping. Such a trend in the buying centers is only natural as thousands of new automobiles are placed on the highways every month.

Merchants have been prolific in devising new schemes to attract customers to their stores in the central business areas. However perfect such advertising may be, it loses its direct pulling power when the prospective customer has already set up a prejudice against driving into the main swim of the downtown traffic. The inadequate parking spaces along the curbs are usually full, and no one relishes the prospect of driving around several blocks merely to find a parking area, and then walk back to the store another block or more. During rainy or hot weather these adverse conditions are only aggravated.

In Los Angeles today these conditions are even more acute than three years ago when the first drive-in market was built by a merchant who was fighting for a profitable business in a traffic congested area. Although jeered at by all his friends this grocer built the first drive-in market on one of the most congested arterials of the city, where over 10,000 cars pass daily. No other store existed at this location, which was marked as a "dead zone" so far as profitable selling was concerned. This motor-in market became an instant success. Thousands of motor-

ists found a new convenience in buying their daily commodities for the home. Eight months later the owner of this first drive-in market took his family on a summer vacation to Europe! The motor-in plan had proved successful beyond a doubt.

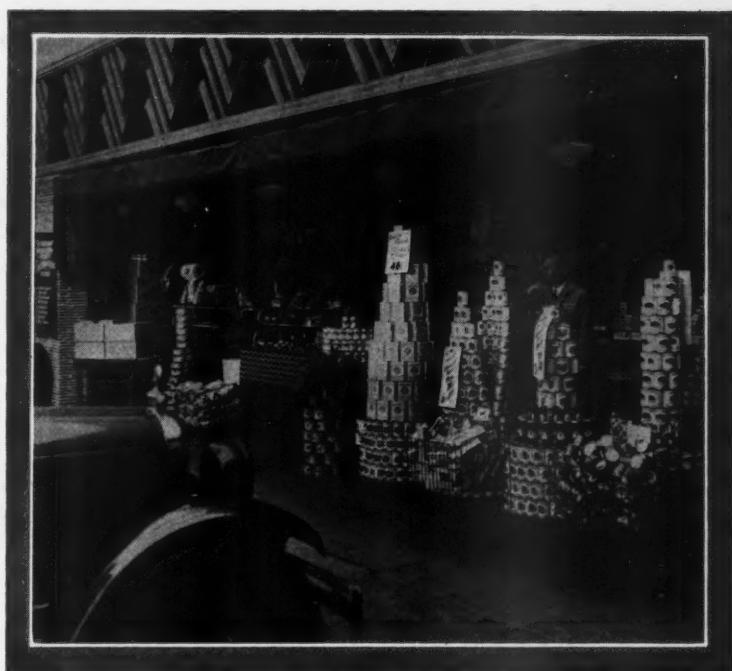
Other markets have been completed in rapid succession throughout the southern and southwestern states, and the idea is now spreading through the eastern states where traffic conditions are demanding merchandising conveniences. A simple definition of a drive-in market would be that it is a complete merchandising unit where ample free parking space is provided for all customers. Such a selling unit not only provides for the traffic conditions but also for the conveniences and speed in selling groceries, meats, vegetables, drugs, or other commodities which may be available in this buying center.

With the usual street front stores a customer tries to find a parking space along the curb, possibly half a block away, and then make his grocery purchases in one place, vegetable buying in another store, and later walk around the corner to the delicatessen for a small purchase, only to be still more inconvenienced by having to stop at the corner drug store across the street. Finally in desperation the customer has probably remembered most of the things he had to purchase on his way home from business in the city. Under such conditions the best selling cannot be done, because the customer is disturbed, tired, and in a hurry to get over the distasteful necessity of purchasing.

In contrast to these street front stores the motor-in markets are establishing new buying habits which are closely allied with the speed and even design of the modern motor cars. Just as the automobile grew

# Builders Have Invented The Drive-In Market

**Where You Can Park Your Car  
and Do All Your Shopping  
Under One Roof**



*The Entire Market Display May Be Seen Before One Leaves His Car.*

out of the horseless carriage days, so are the new motor-in markets the outgrowth of the street front store which served a definite purpose before the present deluge of motor cars which have been gravitating to great metropolitan centers.

With such a radical change in merchandising there were many new problems for the builders of these drive-in markets to solve. Lighting, displays, parking, delivery conveniences, economical structure, location, and management were a few of the conditions which required new solutions. Some of the earlier drive-in markets carried over bad habits from the street front type of store. Numerous divisions and supporting columns interfered with the free movement of the buyers who drove into the markets. These earlier markets did not present the feeling of a coordinated purchasing center in which the entire plan became a complete unit in such a way that the customers felt that they were in one big store.

Later markets have just been completed in which these selling features have been greatly improved. The Mesa-Vernon drive-in market in Los Angeles is a typical example of the newer type. A study of the plan of this market (page 60) will show how many of the building features were taken care of. The few supporting columns provide for long open fronts which afford ample space for the various displays which have been designed to attract the passing motorist. The drug store has been set at an angle with a bank of display windows opening directly on to the parking court, and at the same time affording a direct display to the street. There are no divisions between the grocery, delicatessen, meat, bakery, and vegetable departments in this market. The display counters are continuous from one section to another without interruption.

As a result of the new motoring demands in every traffic congested area throughout America today, Richard J. Neutra of Los Angeles has just completed the plans for a new market which embodies the most revolutionary features in modern merchandising. This new market, as shown in the accompanying drawings, will fit into the modern traffic whirl as

completely as the latest 1929 stream line motor car. This modern architect has designed a market which is really a living billboard which will attract the attention of the thousands of passing motorists long before they actually drive into the market.

"In working out the plans of this market," explained Mr. Neutra, "I have been able to incorporate a number of important features which are of direct appeal to the busy motorist who is anxious to make his purchases in attractive surroundings and with the greatest speed. The first impressions of the prospective customer should be extremely favorable toward the store or market where he intends to stop. This fact becomes even more important during the traffic congested hours along all the main outbound arterials of the city. Consequently I have provided a spacious well lighted drive-in market which is effective in its sales appeal during the day or night.

"There are no front supporting columns to interfere with the full vision of the entire market displays. Practically every display may be seen long before the motorist actually swings in to the motor-in market. The market roof extends out over the display counters nearly two car lengths so that it is possible for the customer to enjoy perfect protection from the warm sun or rain during unfavorable weather. It is even possible for the customers to order their goods directly from their cars should they choose to drive from one unit to another.

"This market is to be located on the right hand side of the street for securing a majority of customers from the outbound traffic. A filling station and service garage are provided. Here it is possible for a customer to leave his car for minor repairs, greasing, or changing of tires while he attends to his buying in the market. The second story administration offices will open out onto a roof garden where it will be possible for customers to stop for evening refreshments during the summer months.

"The alley at the rear affords a means of quick delivery for all incoming goods. By sending these delivery trucks around to the alley entrances the entire front parking area is left available for cus-

tomers. Around the front of the market will be a continuous illuminated band of attractively lettered signs which will direct the incoming motorists to the different departments. All the lighting fixtures will be concealed behind paneled mirrors which extend around the open market above the display counters. These mirrors will pick up the display colors, and give greater depth and attractiveness to the entire market.

"A central rotating beacon with changing colors will sweep back and forth along the band of illuminated signs. Inasmuch as the heaviest sales come during the late afternoon and evening hours this lighting feature has been designed to key in with this development. Great banks of fruits and vegetables, pyramids of canned goods and groceries, and

these last units will take on the curved forms which follow the traffic lines. No matter from what angle the customer enters this market he will be exposed to the entire market area immediately. All these features have been developed to fit into the modern merchandising scheme which has created a new emphasis upon displays and the psychological effects they produce upon the customers.

Many interesting facts have resulted from the development of these motor-in markets in the last few years. Financial figures from a large investment company in Los Angeles show that the income value of a drive-in market is four times the amount which would naturally be expected from the usual street

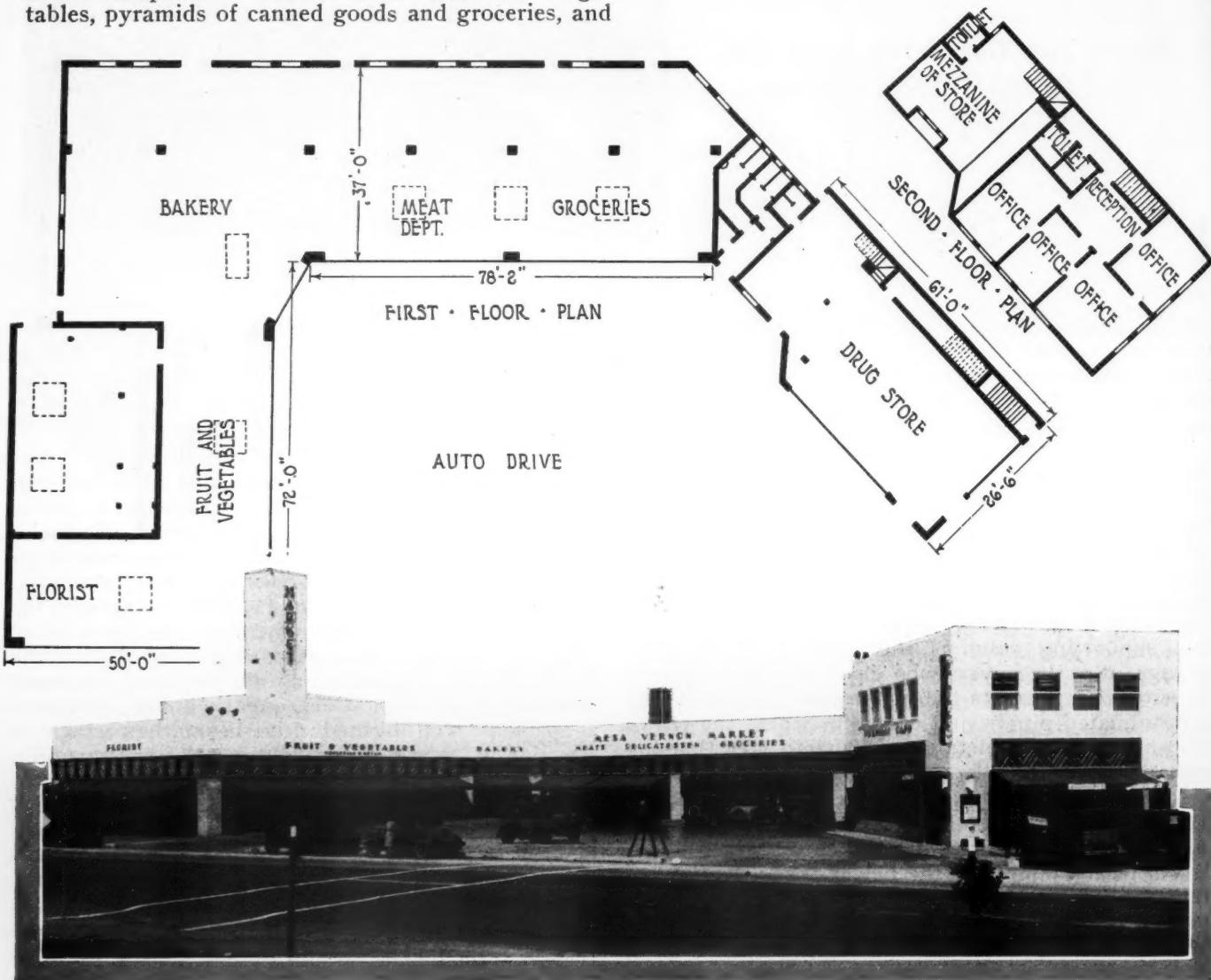


Photo and Plan of the Mesa-Vernon Drive-in Market, Los Angeles; Geo. J. Adams of Hollywood, Architect.

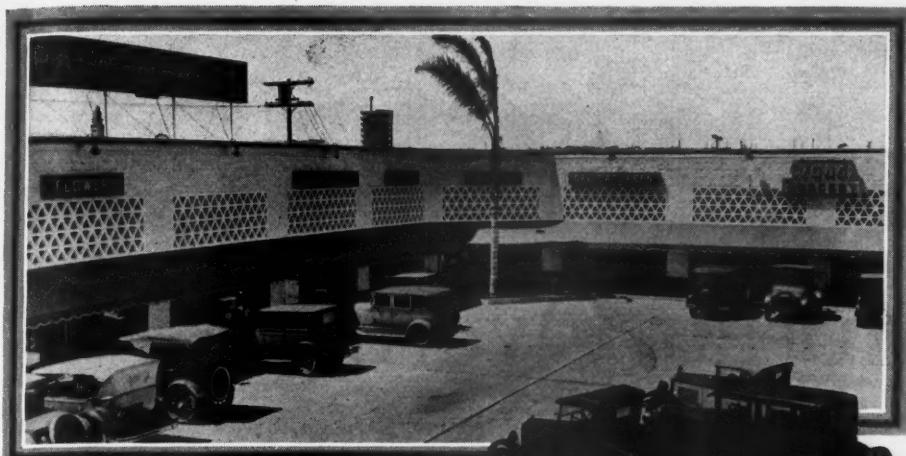
the colorful display counters of the meat and delicatessen departments will all form a colorful united sweep of merchandise which will be irresistible to the passing motorist. Everything will be shown in an appetizing way so that one product will suggest another and consequently produce more sales.

"The awnings and wire gratings will pull down from the overhanging roof when needed. A lunch counter, florist shop, and possibly a drug store will be provided for in the center of the motor-in market."

Even the green lawns provided for in front of

front stores in the same location. It is possible to prove the income value of the drive-in market before it is even built. However, these figures depend upon proper location of the drive-in market, which is one of the important considerations before building.

So far the experiences of the motor-in markets show that a major street intersection with stop and go signals is to be avoided as a possible location. The signals absorb 50 per cent of the advertising value of the drive-in markets which is located in such a cross traffic section. Motorists have their attention upon the traffic officer, signals, and the



*Above—The Palm Drive-In Market, Hollywood, Calif.  
J. Byron Severance, Designer and Builder.*

seething cross traffic, and a drive-in market is thus at a decided disadvantage in such a location.

A motor-in market must be located on the level, so that there are no objectionable hills or humps to drive over. The possibility of steady trade from the immediate neighborhood should also be taken into consideration, as well as the trade from the major traffic laden highway.

The open front type of motor-in markets is very well adapted to the milder climates of the southern and southwestern states. For the northern states a more closed-in type of market would be the logical solution in order to cater to the year around motoring trade. Several markets have already been built which permit the motorist to drive his car right through the interior of the market, and buy directly from the side counters. Such a market has just been completed in Visalia, California.

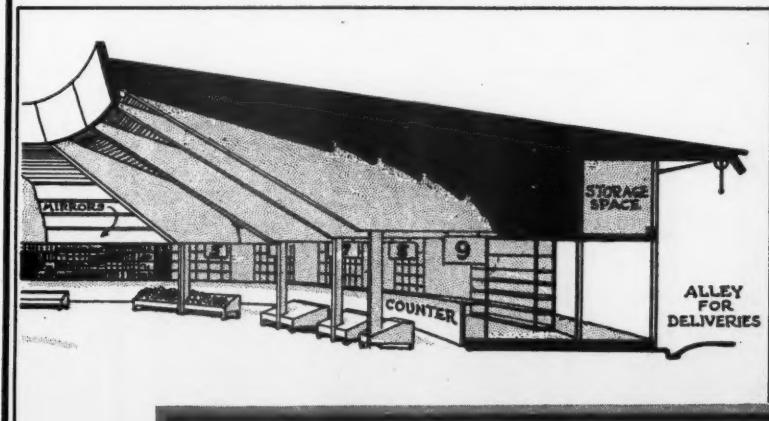
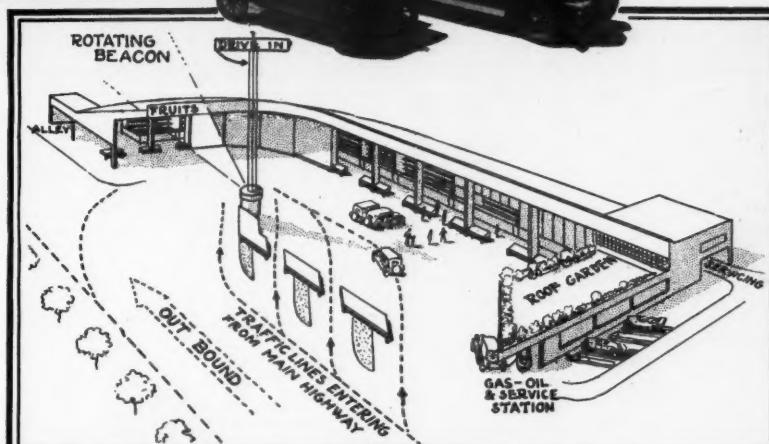
All the drive-in markets operate on a day and night schedule from 7 a. m. to 12 midnight. Such long open hours are impossible for the usual street front store, because it would be unprofitable to employ two shifts of clerks. With the drive-in markets it is possible to sell to the morning and afternoon shoppers, the homeward bound work-

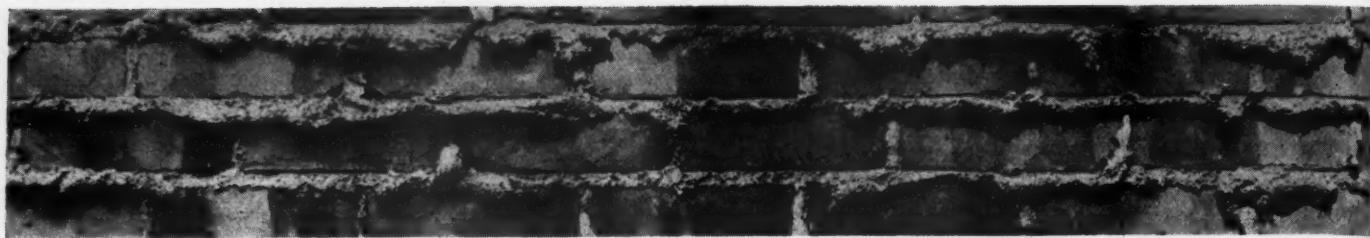
ers in the business center, and the theater crowds during the night hours. Such a continued service is keying in with the new motoring demands of modern America.

These new drive-in markets are now merely in their beginning stages of development. Along with the growth of the automobile there will be a parallel growth in the merchandising field for relieving the traffic annoyances as well as permitting customers to buy in concentrated markets. In a few years the motoring public will be doing most of its business in large drive-in market blocks, from banking to shoe buying. Such a block market with interior parking court has already been proposed for a central business center in Hollywood, California.

Such developments for relieving the traffic conditions of the larger cities come as natural results. It is only the soundest of business reasoning to say that the biggest problem for the merchants of the central metropolitan areas is the successful solution of the traffic conditions.

*Mesa-Vernon Drive-In Market.*





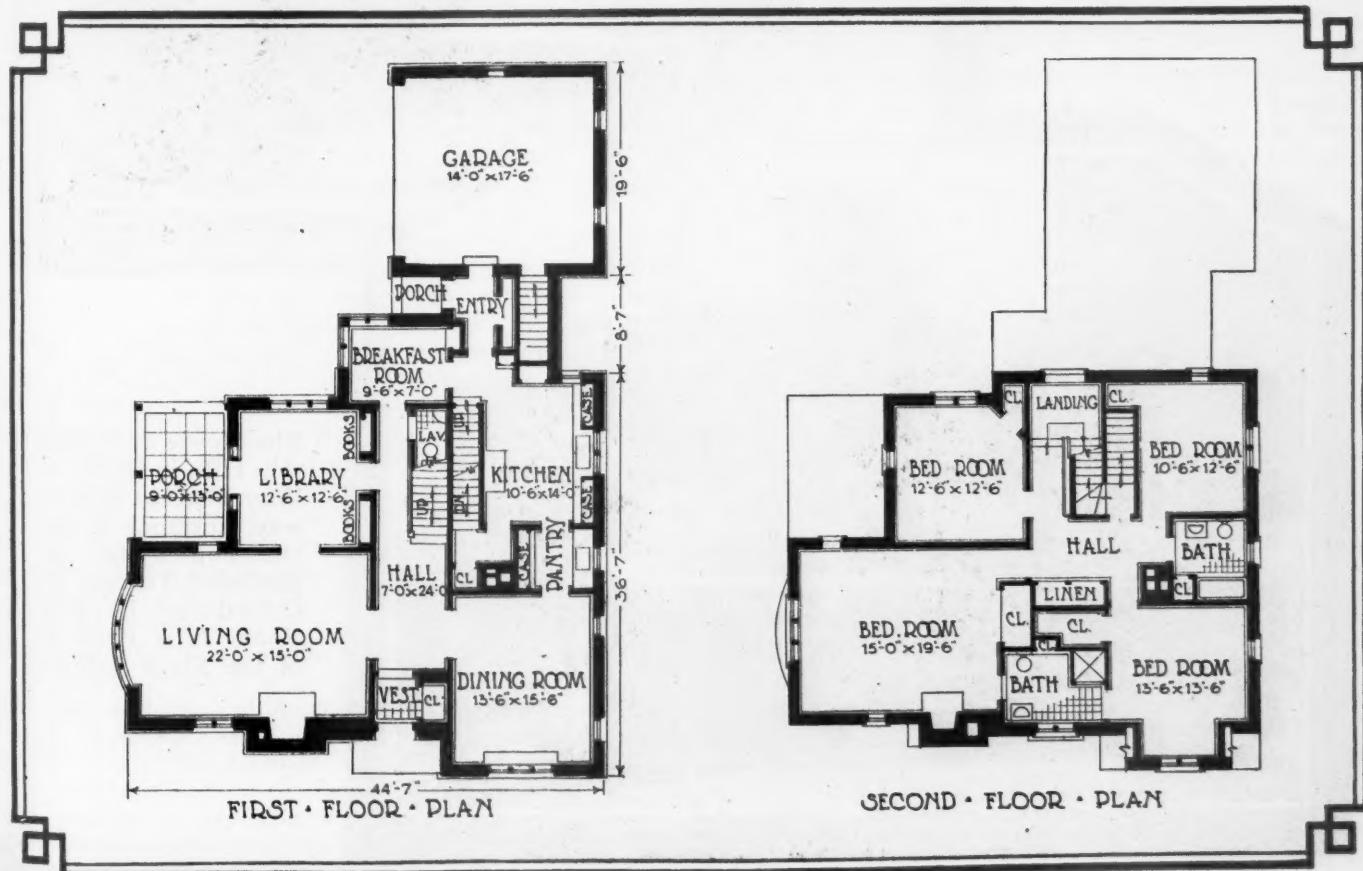
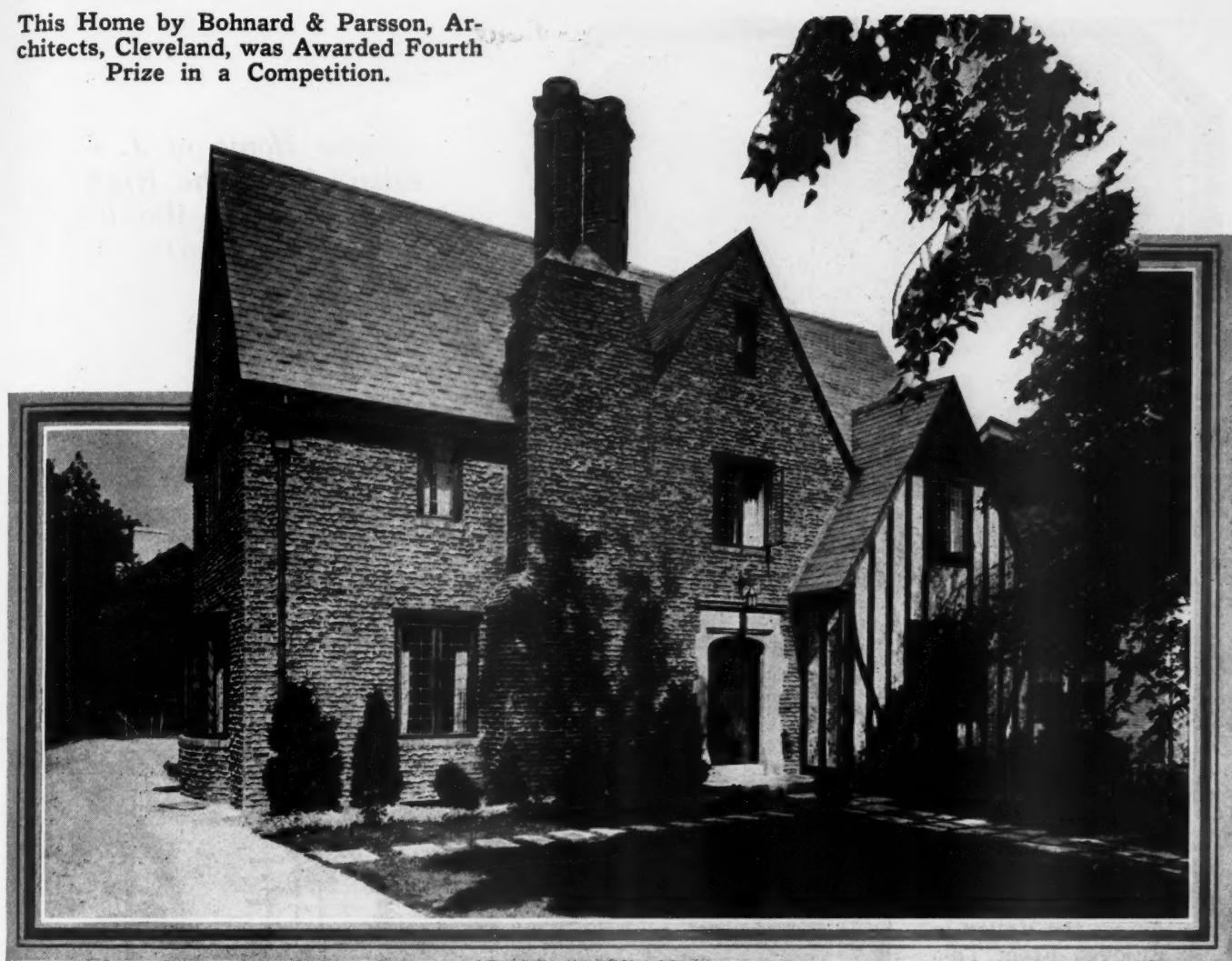
# With Mortar Overhang

*Unique Personality with Common Brick and Mortar*



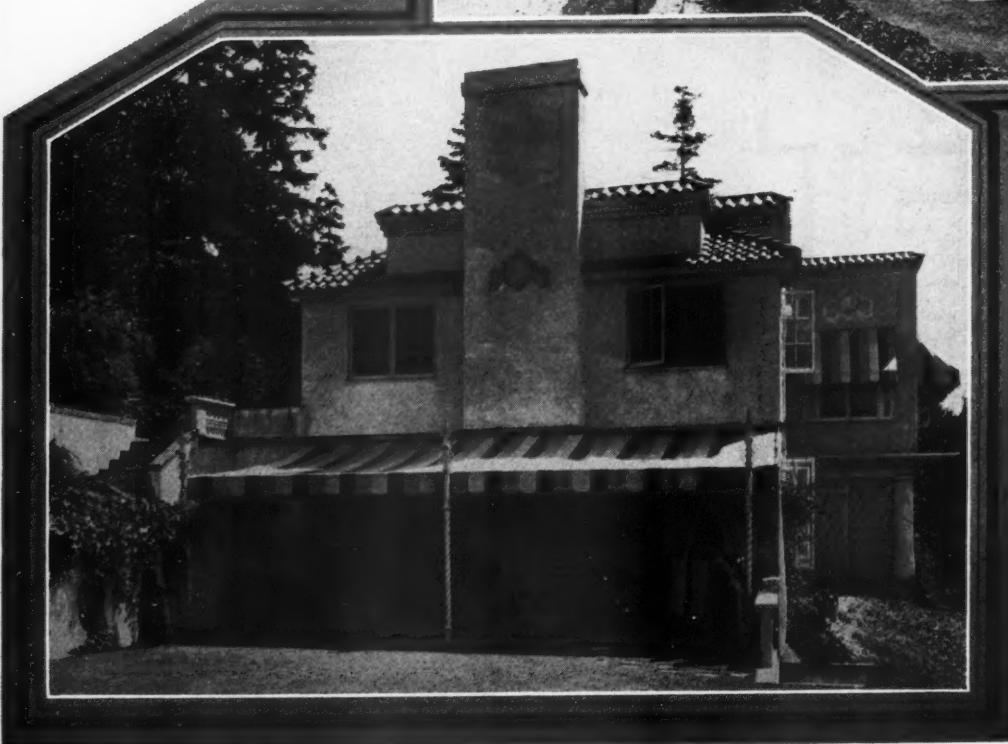
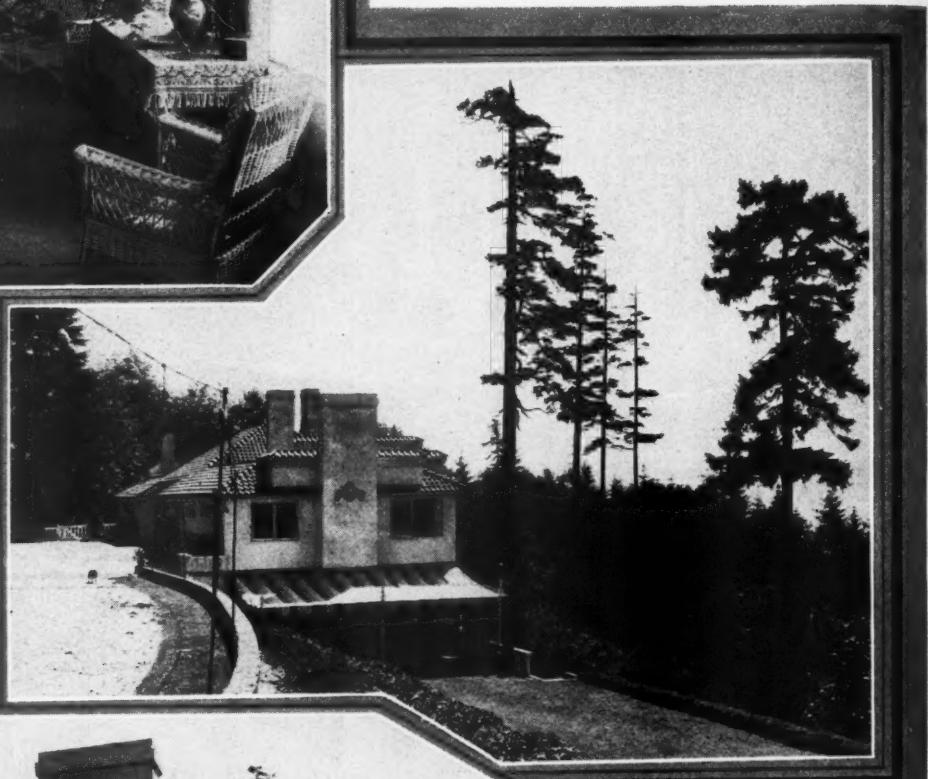
**T**HE Shaggy Overhanging Mortar Joints Give This Home at Lakewood, Ohio, Plenty of Individuality—Plans on Page Opposite.

This Home by Bohnard & Parsson, Architects, Cleveland, was Awarded Fourth Prize in a Competition.





**A Wonderful View Across the Valley Is Enjoyed From This Solarium.**



**Unique Home of J. C. Eden, Esq.; the Highlands, Seattle, Wash.; Edwin Ivey, Seattle, Architect.**

**The House Is Under the Hill in Such a Way That the Driveway Entrance Is on the Top Floor. A Sheltered Terrace or Outdoor Living Room Is a Feature of the Floor Below.**

*View of the front of "Albedor", taken from the lake, frozen to a depth of nearly thirty inches, in February.*



# "Albedor"

*The Adirondack Camp of Col. Edward A. Simmons*

A DELIGHTFUL "woodsey" atmosphere, in keeping with its picturesque surroundings, pervades "Albedor," the Simmons' Camp on Fourth Lake, Fulton Chain. Built of rocks blasted from its own site and of logs cut from the surrounding forest, the rugged exterior of this hospitable play-time home invites to a closer study of the building's sturdy construction—said to be the best built camp in the Adirondacks; and of its completeness of modern "city conveniences."

"Albedor," named after Colonel Simmons' three children—Aline, Betty and Doris—occupies 30 acres of land with a 1,100 foot frontage on Fourth Lake. The main building, pictured above, is a magnificent structure, about 103 by 95 feet, two and one-half stories high, with a spacious attic. The ground floor consists of the living room, dining room, breakfast room, library, "den," kitchen and pantry; while on the second floor are seven bedrooms and a nursery for the children, each with a private bath. On the floor above are two guests' bedrooms, each with a bath; and ample space for four more bedrooms if and when required.

While the building, with its cedar clapboarding and slate roof without, and all-wood finish within, is wholly "woodsey" to the eye, it contains every known modern convenience. For example, there are two telephone trunk lines and three extensions; a radio with plugs for loud speakers in four rooms; a complete interior telephone system with connections from various rooms to the garage, boathouse and children's playhouse; and



a network of electric wires—all in conduits inside of the walls. Then, too, there is an electric range, an electric refrigerator, and numerous electric kitchen appliances. Two oil burners furnish heat for the fifty-horsepower boiler which supplies steam for both the main building and servants' quarters, while a third generates heat for the hot water.

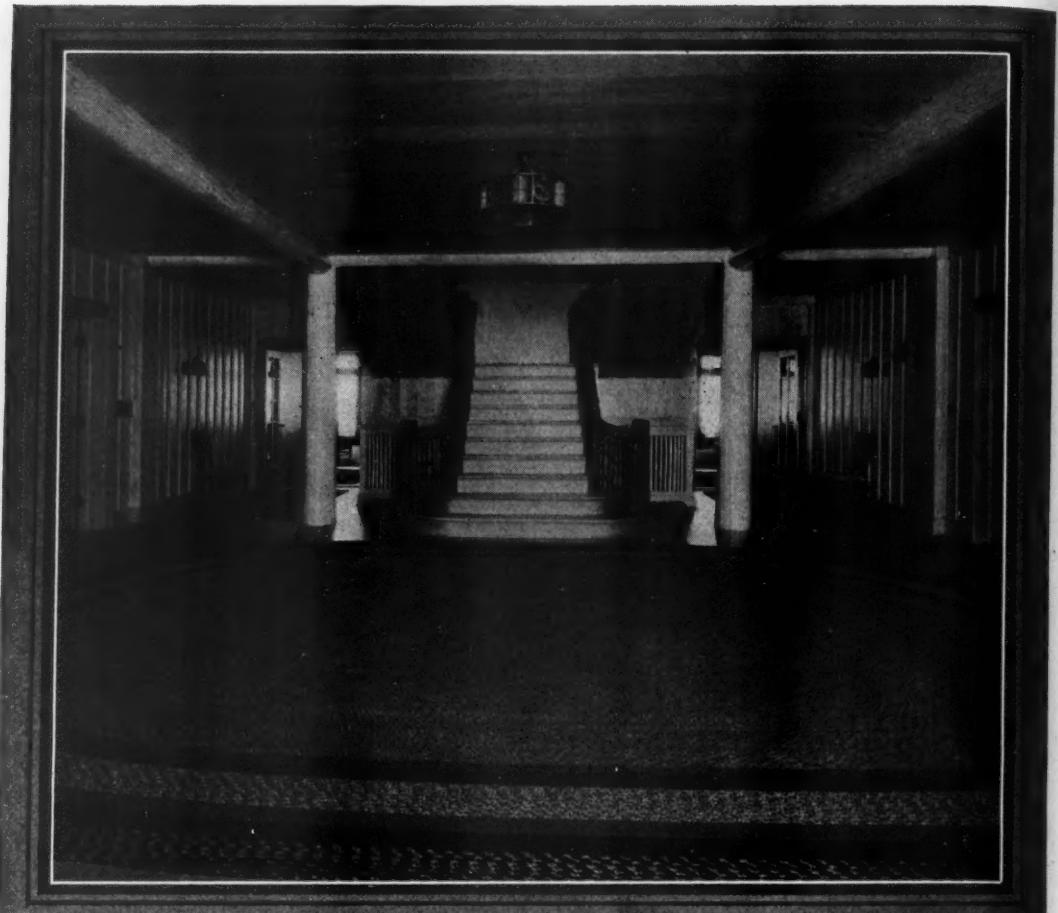
Work on the camp was started in February, 1927, plans having been prepared by Architect Francis Y. Joannes, of New York City, and the contract for erecting the camp entrusted to Charles J. Smith, a builder of Syracuse, the subcontractors being Edward Joy Company, heating and lighting, and Charles A. Leiger, plumbing. Construction work was finished in May, 1928.

Approximately 57,000 square feet of fibre insulation board was used throughout the main camp building, both between the clapboards and studding on the exterior, and between the studding and the walls and ceilings on the interior, as well as over the roof rafters. The insulation in these buildings has proven particularly valuable for the cold Adirondack winters.

In addition to almost a carload of insulating board, the following materials were used in the construction of this camp: Cement, 7,600 bags; common brick, 28,000; copper sheet nails, 5,875 lbs.; crushed stone, 588 tons; dynamite, 5 tons; electric conduit, 5½ miles; electric wire, 16 miles; lumber, 407,729 bd. ft.; nails (other than copper), 148 kegs; piping (water-gas-oil-sewer), 14,321 ft.; sand, 1,000 cu. yds.; and slate (on roofs), 145 tons.

**"Albedor"—**

Rear entrance hall, finished in fir, with birch beams and columns. The staircase, with posts and rails of barked cedar, was designed by Mrs. Simmons.



Living room, with floor, walls and ceiling of cypress and beams of birch. The transverse logs were hollowed to fit around the steel beams which support the upper floor.



"Albedor"—

Colonel Simmons' "den" finished in ash, with a frieze and mantle of silver birch and birch columns and beams; huge fireplace of native stone.



Bedroom of little five-year old Elizabeth ("Betty") Simmons, being typical of all of the seven bedrooms on the first sleeping floor. North Carolina pine applied vertically, is used in these rooms.



**F**

### **IRST PRIZE**

*in the Common Brick Competition was won by this home at Riverdale, N. Y., James C. Mackenzie, Jr. of New York City, Architect. (for perspective sketch and floor plans see Art Plate opposite)*

### *S*ERVICE TO HOME BUILDERS

*Throughout this magazine we present many building designs. A variety of home plans are included, selected from many parts of the United States and designed by various architects of standing.*

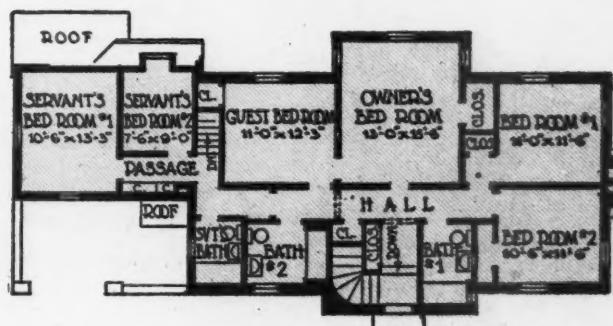
*The "American Builder" will gladly serve its readers by bringing them together with these architects if any further information or plans are desired for any of these designs. Address the American Builder Home Planning Service, 105 West Adams Street, Chicago.*

# First Prize House of Brick

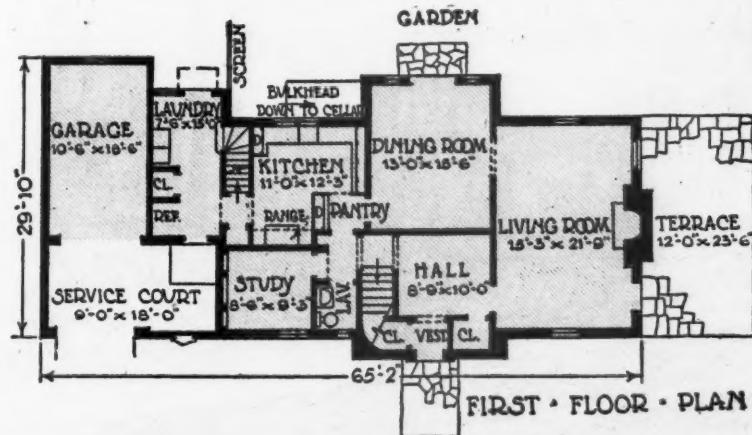
COMMON BRICK ASSOCIATION COMPETITION



Detail of this house as built at Riverdale, N. Y., illustrated by photograph on page opposite.



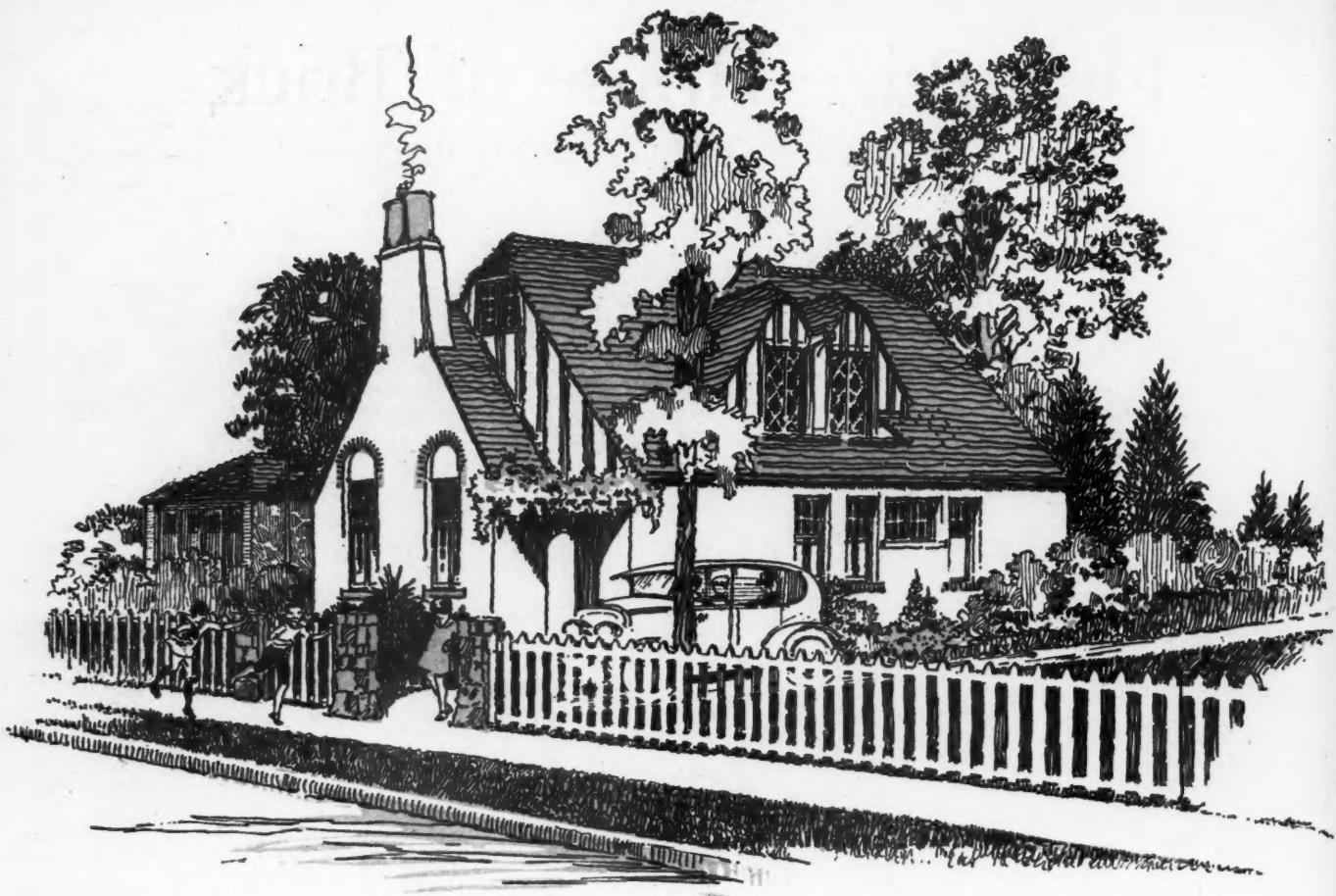
SECOND - FLOOR - PLAN



FIRST - FLOOR - PLAN

Designed by  
**JAMES C. MacKENZIE, Jr.**  
 ARCHITECT  
 5 East 57th St.  
 New York City

TEN ROOMS, THREE BATHS AND ATTACHED GARAGE OF ENGLISH LINES

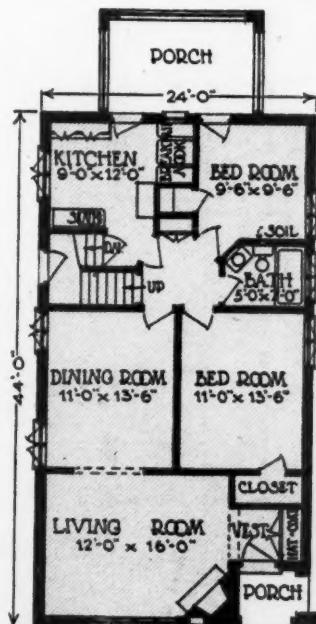


*These two radically different types  
match the standard floor plans as  
shown opposite, except for the plac-  
ing of the chimney and the space  
on the second floor.*

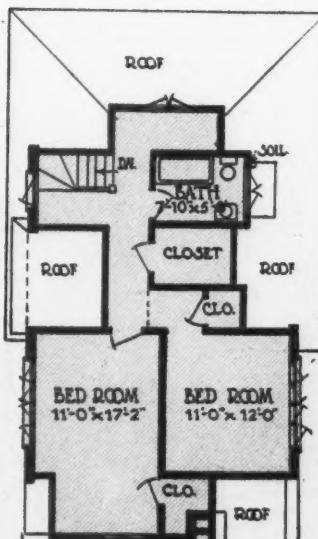




## Three Exterior Designs for One Standard Floor Plan



FIRST • FLOOR • PLAN  
THIS • STANDARD • FLOOR • PLAN • WITH • MINOR • CHANGES • FITS •  
THESE • THREE • DIFFERENT • PERSPECTIVES



Designed by  
John T., and Murray D. Hetherington  
105 N. Clark St., Chicago

THERE are many economies when building a street of homes in using a standard floor plan. However, considerable variety is wanted in the exterior designs. By changing the roof and windows, and by moving the prominent fireplace chimney, a remarkable series of changes has been effected. Messrs. Hetherington in connection with some large operation work have perfected the accompanying standard floor plans and have found them adaptable to many styles of exterior. Three of these perspective sketches are illustrated.

This makes a seven-room and two-bath home, 24 x 44 feet, go onto a narrow lot.

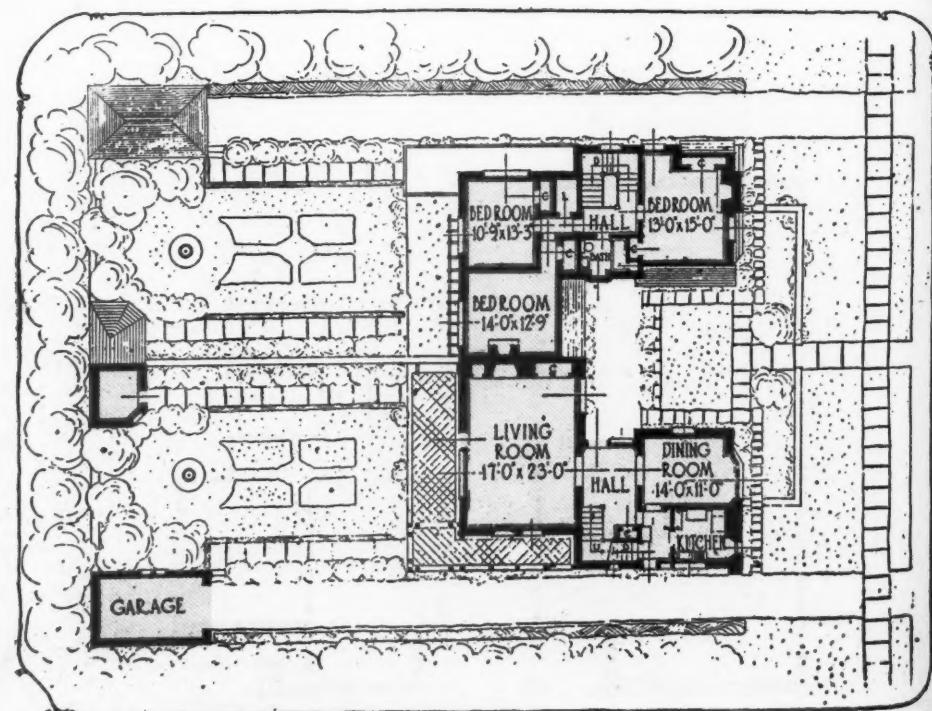
# First Prize Semi-Detached House

PHILADELPHIA T-SQUARE CLUB COMPETITION



*Detail of  
Entrance*

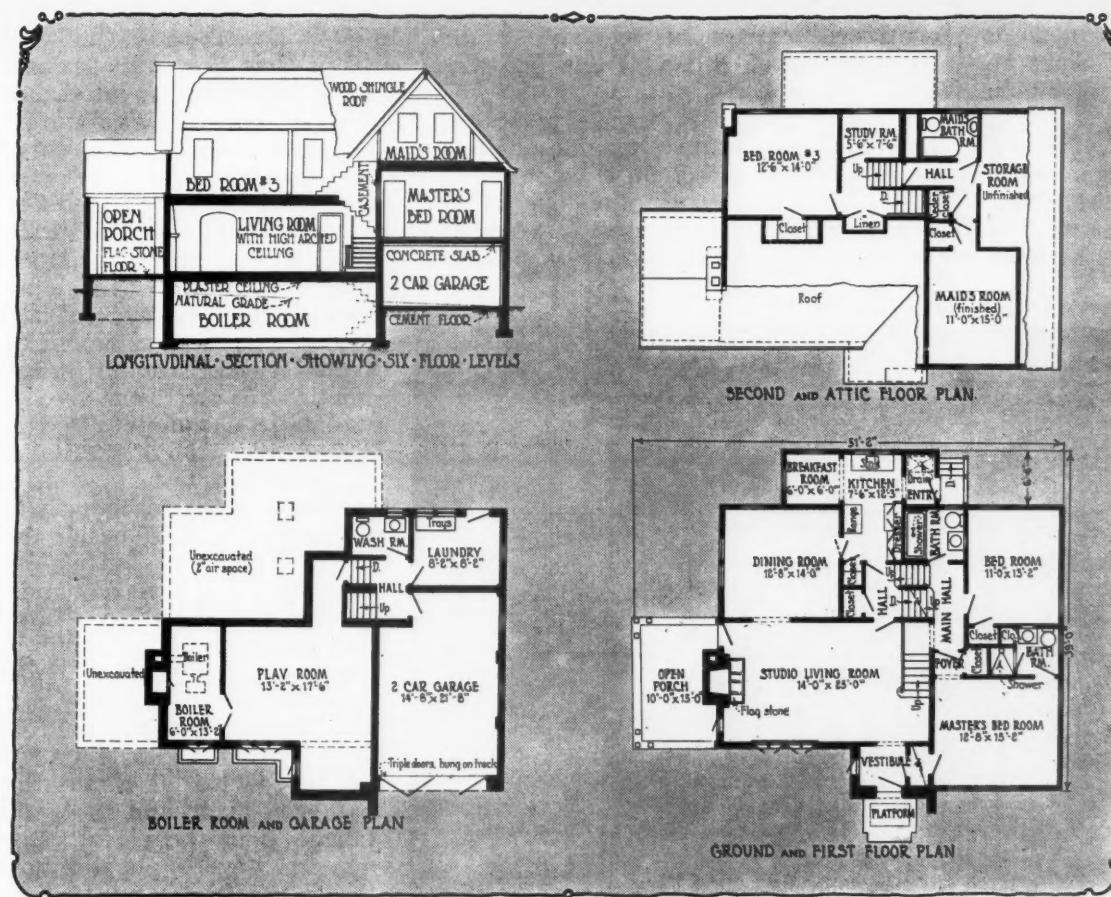
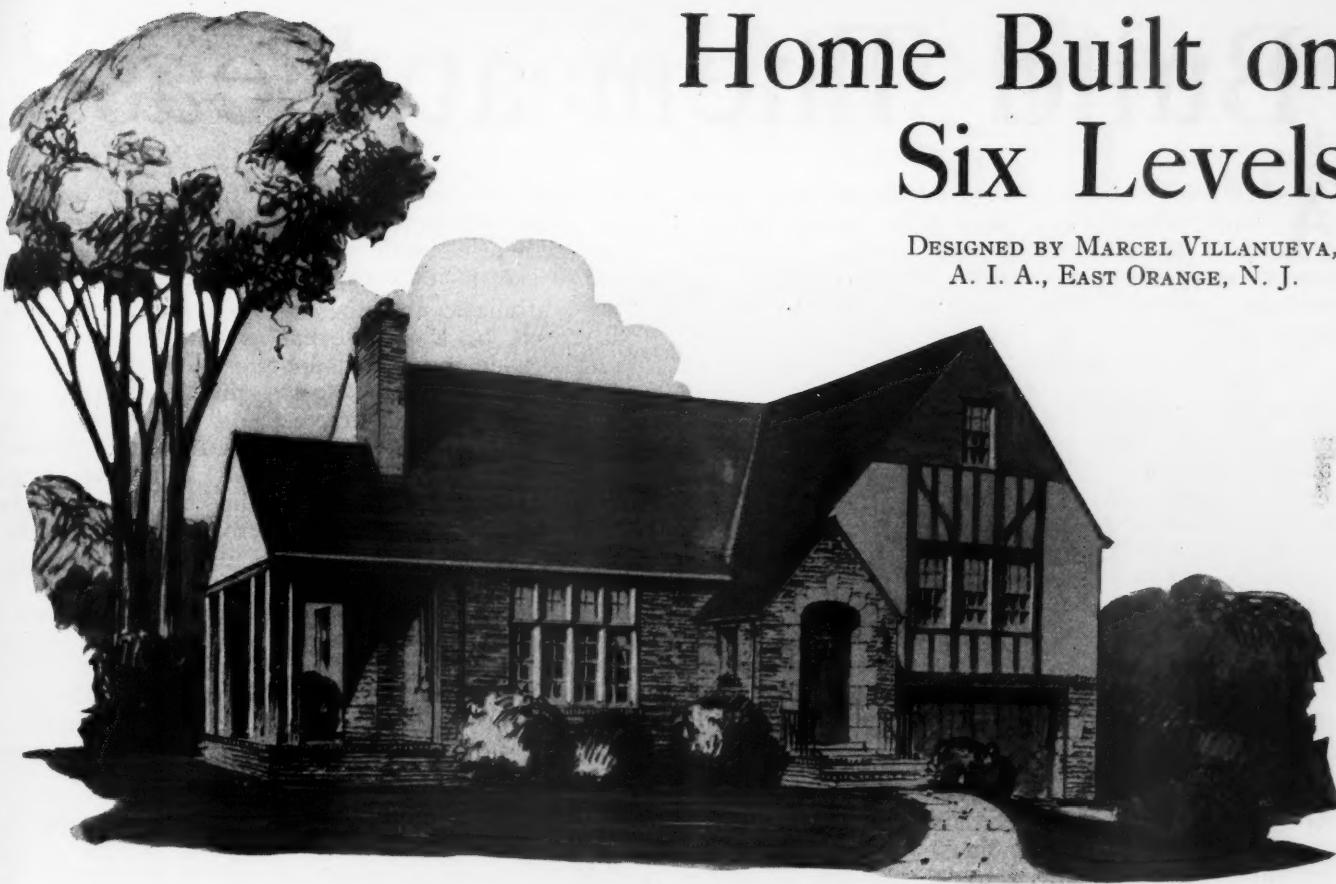
Designed by  
**HENRY G. RIEBER**  
1429 Walnut St.  
Philadelphia, Pa.



A DOUBLE HOUSE DESIGNED FOR MAXIMUM PRIVACY

# Home Built on Six Levels

DESIGNED BY MARCEL VILLANUEVA,  
A. I. A., EAST ORANGE, N. J.



A Most Unique Arrangement for a Home to Be Built on a Sloping Site Is Presented. The Rear or Garage Section Is a Half-Story Above the Main Wing on Every Floor, Making Six Levels, Each Reached by a Half-Flight Stair

# Build Them at Least

**A**MULTI-FAMILY house is the modern name for buildings that have been known heretofore as flats, apartment houses, tenement houses, etc.; in other words, buildings used for dwelling purposes and housing more than two families.

There has been a distinct trend towards apartment house life in the larger cities of the United States since the World War and the demand for such houses is accelerating. In 251 of the cities that contain more than 25,000 population the total number of families provided for in multi-family houses in 1928 exceeded the number provided for in one- and two-family houses combined. It has been noted that many smaller cities also contain such houses.

For the benefit of designers and builders in the smaller places who have little, or no, opportunity to keep closely in touch with recent developments in multi-family houses the writer proposes to tell just what the very latest ones contain.

**I**N Europe it is not uncommon to see six-story multi-family houses for the poorer classes and even five-story houses for the lower middle class, the upper middle class refusing to go so high and resting content with three and four story houses, unless elevators are provided. In the United States the erection of five story "walk-ups" ceased a number of years ago in the larger cities, except for the very poor class. Since the war it has been difficult to keep good tenants in four story buildings without elevators.

The marvelous development of automatic elevators will soon make it unprofitable to build multi-family houses containing less than six floors; the "walk-up" nowadays seldom being built more than three stories high, except where property has a very

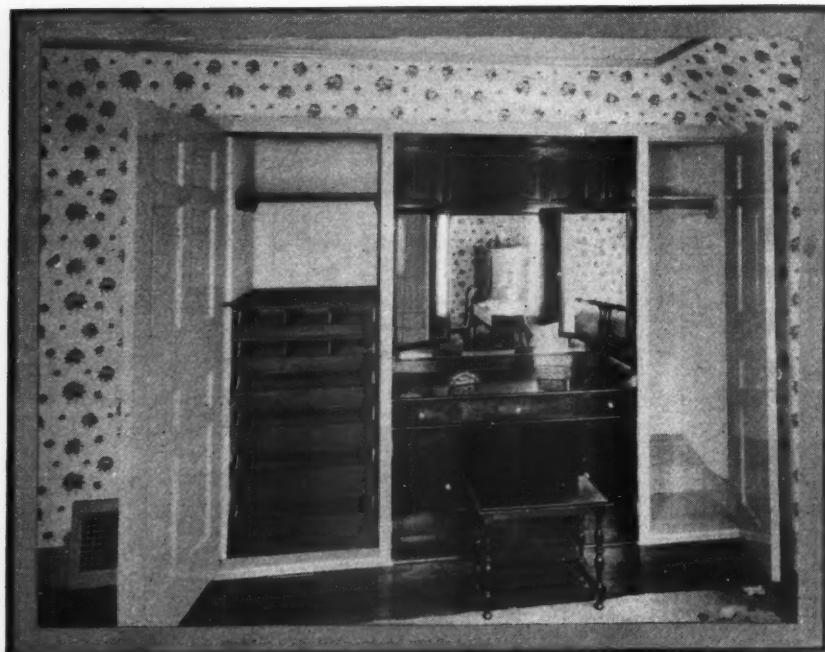
high value, in which case a fourth story will be seen. The fourth floor, however, soon becomes vacant when a modern low renting multi-family house of six stories with elevator is erected near-by.

The automatic elevator has no regular attendant and travels at a speed that is satisfactory. One stands outside the closed door of the elevator shaft and presses a button that causes the elevator to come to the floor. After it arrives, and not before, it is possible to open the door. Entering the elevator the door is closed, for the elevator cannot start with the door not tightly closed. If the children open the door while the elevator is in motion it stops instantly, so children of tenants operate these convenient machines without causing their mothers to lose any heart beats. After closing the door one pushes the button numbered to correspond to the floor it is desired to go to and the car starts. It stops at the floor, the door is opened and the passengers go out. The door must be closed upon leaving or the car will remain in place; the latest type of elevators have self-closing doors.

**I**F a man intends erecting a multi-family house for renting purposes he will make a mistake if he builds it less than six stories high and without an automatic elevator. Heretofore the cost of elevator boys and incidental expenses have held builders to three and four story "walk-ups", but their day is done. In suburbs of New York City six story multi-family houses with automatic elevators have apartments that rent for as little as \$20 a room per month, and three years ago such rents were easily obtained for apartments in four story "walk-ups". Such apartments today are renting at from \$14 to \$18 a room. People today do not want to walk even one story if possible to avoid it.

The dumbwaiter has disappeared from the more modern multi-family houses. Instead of having goods delivered to each floor by means of a dumbwaiter, delivery boys use the automatic elevators. In some buildings delivery boys are not permitted to do such a thing and all deliveries are made in the basement where boxes are ranged in order beside the elevator shaft. There are inswinging doors near the top of each box and goods are readily placed within. But they can be withdrawn only through doors near the bottom, to which tenants alone have the keys. The lady of the house can descend, or send one of her children, to the basement with the key to her box when she thinks the delivery has been made and the goods can be taken up in the elevators. In many modern houses pushbuttons and interior telephones notify people when goods are delivered.

The disposal of garbage by sending it down a dumbwaiter has, of course, gone out of style. Each house has a garbage incinerator with an opening



Modern Apartments Are Equipped with Many Clever Built-in Wardrobes and Cases.

# Six Stories High

Says Ernest McCullough

*In this article Colonel McCullough tells what the better planned Multi-family Houses of Today Contain and Why it is Better to Build Them at Least Six Stories High.*



Garden Court Apartments, Philadelphia,  
Clarence Siegel, Architect.

on each floor. Through this opening the housewife drops waste paper, garbage and all waste matter, including the dust from the vacuum cleaner at any convenient time. It drops into a small fire box in which the fire never goes out and thus the important question of garbage and waste disposal has become a simple thing indeed.

In some modern houses there are laundry delivery chutes ending in the basement, in the apartment of the janitor. The weekly wash is placed in a corrugated paper box marked with the name of the laundry and the name of the tenant and dropped down the chute. The janitor places it on a shelf to await the arrival of the laundryman, who signs a receipt which is dropped in the mailbox of the tenant. For tenants who wish to do their own washing, or at least wash the finer goods, there is a complete laundry equipment in the basement, including a drying compartment.

There are no visits from icemen, for each apartment is supplied with an automatic refrigerator operated either by gas or electricity, a noiseless one. A gas stove of course goes with each apartment and each bathroom has a shower.

No home is complete today without radio and every modern multi-family house is wired for antennae and ground, the householder merely plugging in. Nearly all radios today are electric and as considerable static is developed when the radio is plugged in on the ordinary power wire and some one in another apartment uses a vacuum cleaner, or some other electrically operated bit of equipment, the modern apartment house must have a separate wire for radios.

**N**O building should go higher than three stories with straight walls, the set-back principle having added much beauty to the sky-line, so it is now possible to give each apartment above the third floor a porch, or, in fact, a bit of yard. Many beautiful bits of terrace are to be seen in some of the more modern houses. With the roof setting back at the floor line all of the windows can be the French type;

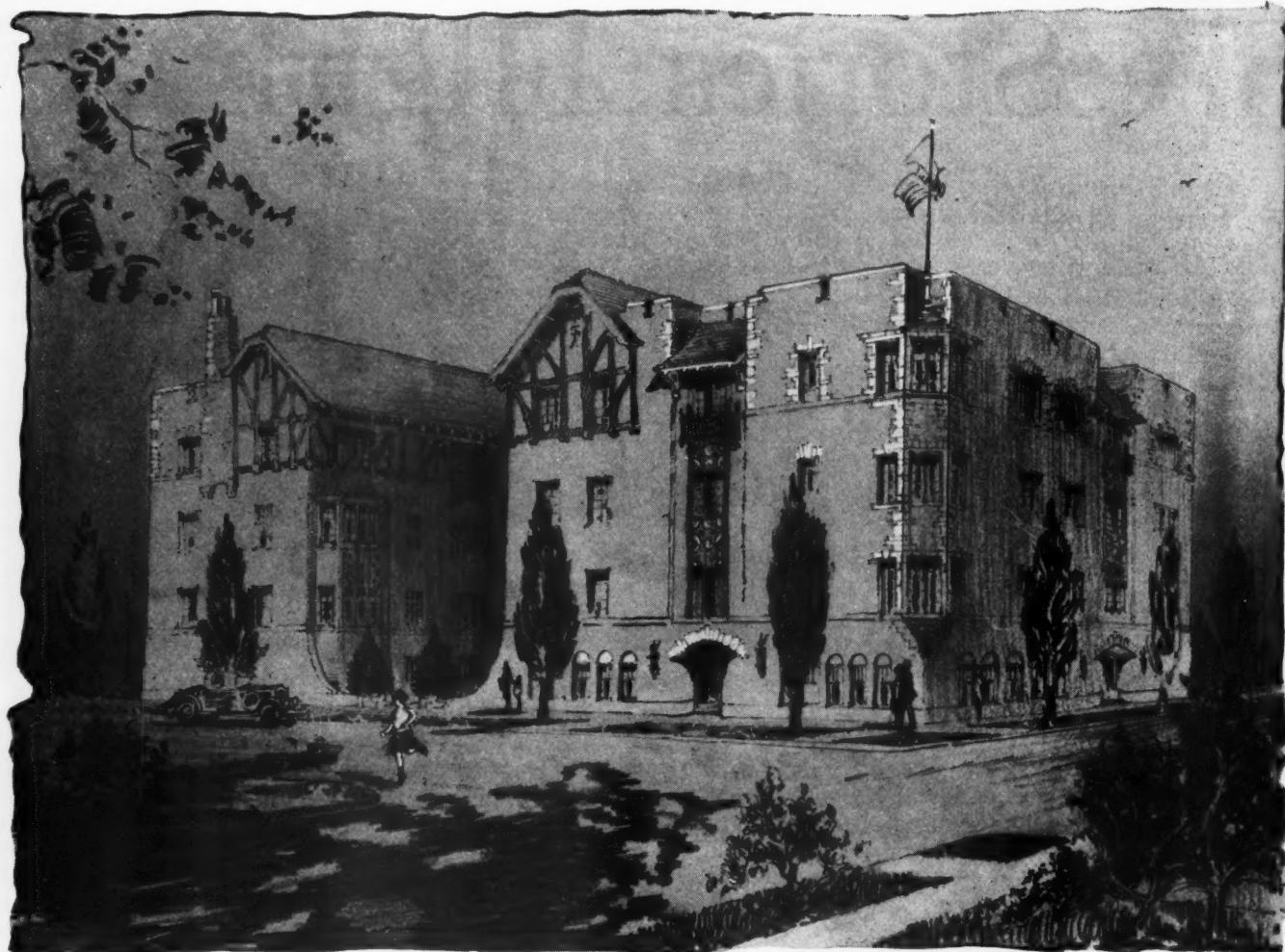
that is, really be glassed doors opening on to the terrace. The bit of roof between the wall of the apartment and the wall forming a rampart on the edge of the roof, generally is paved with tile and when an awning is added the effect is delightful. Small trees in boxes alternate with boxes full of bright colored flowers, and give the city dweller a sense of living in the country.

The heating is done with concealed radiators within the walls, thus saving much room, where room is scarce, and making it easier to furnish in an artistic manner. The walls usually are panelled, the panels being papered with brightly colored wall paper, the spaces between and around the panels being painted.

**H**ALLWAYS usually are hard to treat in multi-family houses and many ingenious plans have been made to do away with as much hallway as possible. It means, of course, more stairways and elevators and adds a feeling of snugness because of the almost square shape of the common space entered by the stairway and elevators. There must of course be stairs to assist in escape in case of fire and to serve in an emergency on the rare occasion when an elevator may not be in running order. These square common places also are treated in a manner to make them look "comfy and homey", by putting bright patterned wallpaper in panels that are surrounded by painted surfaces. The walls and ceilings are covered with paint and paper that may be washed.

It pays to put in a lot of study to determine how to avoid long hallways and buildings so arranged usually carry a lower insurance rate. There should be generous space devoted to courts.

Buildings today are better constructed than buildings ever were in the past, but they become out-of-date very quickly unless planned by far-seeing architects and financed by men of vision. Obsolescence is what one must guard against today and really comfortable and sanitary buildings never should become out-of-date.



# Making the Basement Pay

*In This Apartment Building Recently Erected  
at Harvey, Ill., from Plans by*

JOHN T. and MURRAY D. HEATHERINGTON, Architects

THE basement of the modern apartment building is a far cry from any basement conception of even a few years ago. True, it does contain a heating plant, a laundry and possibly storage rooms, but how changed these are in appearance and in usefulness. And then, too, it contains a number of other things that one never associated with apartment basements in the old days.

An apartment building, erected this spring, in Harvey, Illinois, is an outstanding example of the new order of things. In fact the basement plan is perhaps the most interesting thing about this building, though the whole design is one that appeals both to apartment renters and apartment house owners. The design is the product of John T. and Murray D. Heatherington, Architects, of Chicago.

The exterior of this building is suggestive of the English style of architecture. It was, undoubtedly, from the old English manor houses that the architects received their inspiration, though the style has been so modified and adapted that it is distinctly original. It is the sort of work which gives weight to the theory that this country is developing an architectural style of its own which, like every enduring style, springs from the roots of past achievements growing and adapting itself to its time and environment.

The strongest suggestion of the English style appears in the gables and half timbers most conspicuous from the court yard view. The architect's sketch, which heads this page, definitely suggests all this without going into all of the detail which would appear in a photographic reproduction of the completed building.

But now let us turn to the plans, reproduced on the opposite page. Two plans are shown, that of the basement, which has already been mentioned, and one typical floor plan. Turning first to the typical floor plan, we find a design which is, in general, already familiar to us since we have become so well acquainted with the modern kitchenette apartment. Virtue here lies in the skillful designing which has produced the greatest number of apartments, with the greatest living comfort in a given space. This, in the eyes of the building owner, is a very essential point for it means a greater return on the investment and greater rentability of the space.

Two kinds of apartments are provided here. In one kind there is a living room, dining room, kitchenette, bed room and bath. In the other the bed room is omitted and sleeping is provided for only by the disappearing bed housed in a bed closet. This bed closet is a part of each living room in both types of apartment.

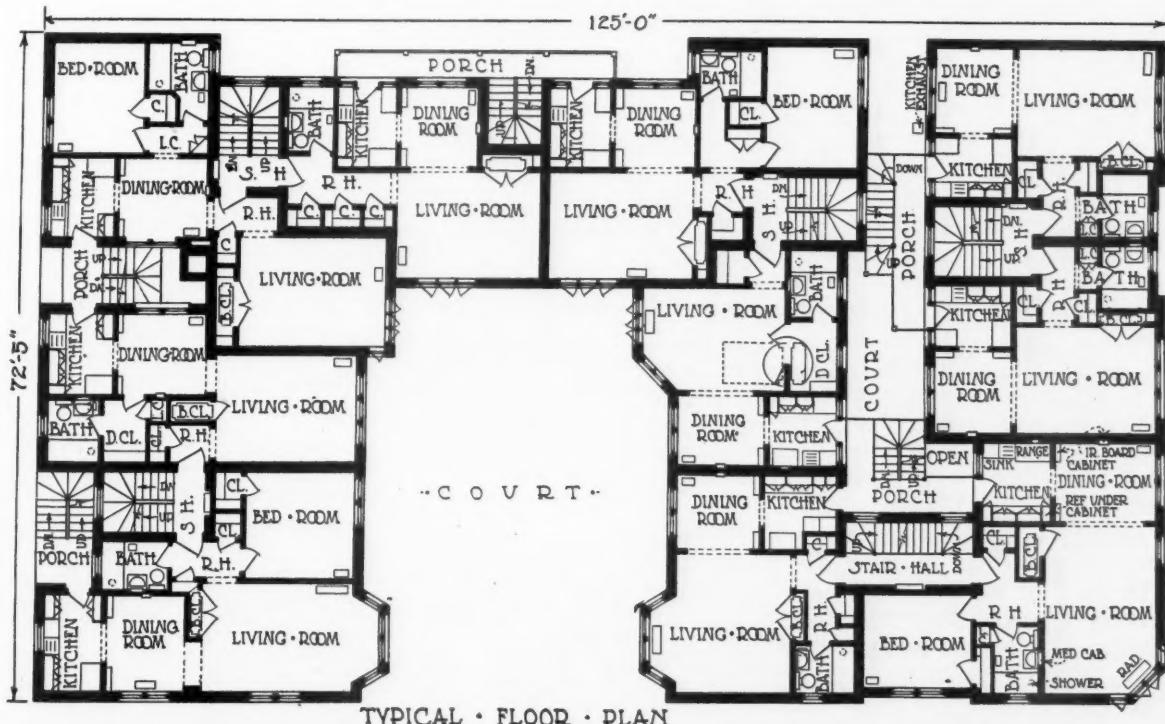
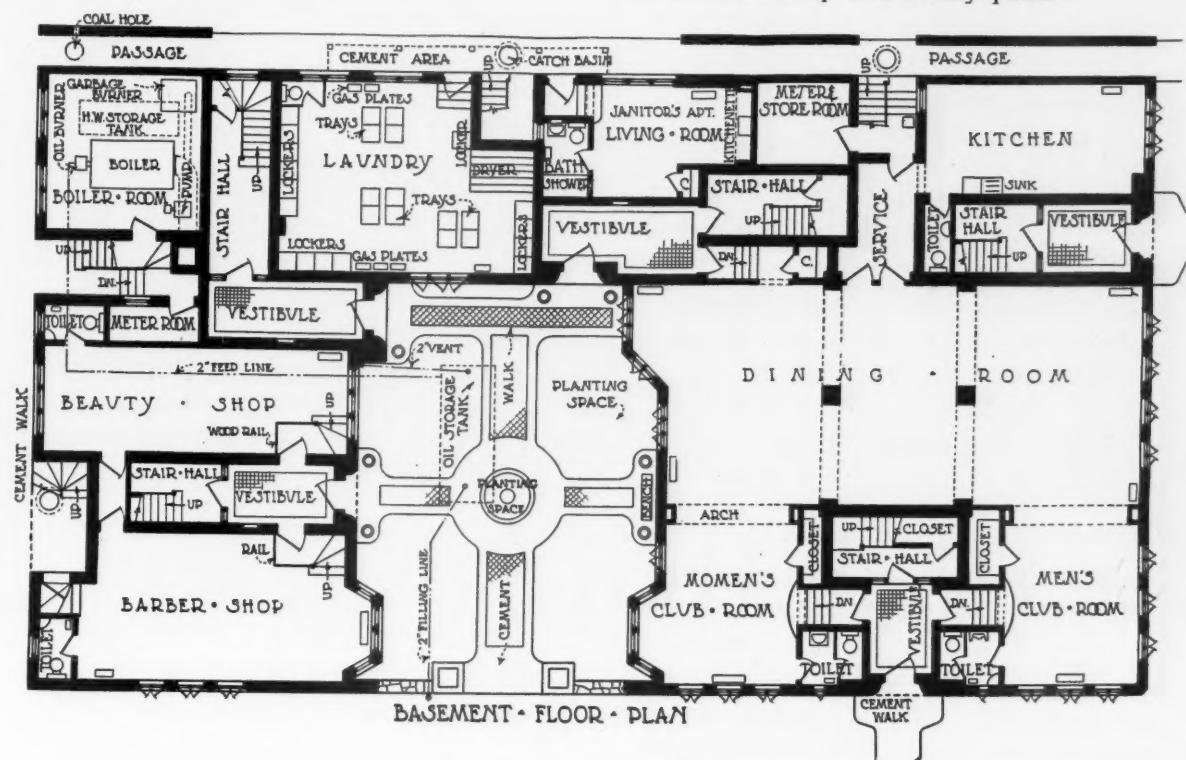
And now about the basement plan. The heating plant is placed in one corner of the building and is com-

pletely segregated from the rest of the basement by solid brick walls. In addition to the heating plant itself, this room contains the hot water storage tank, garbage burner and pump. There is no danger here of any dirt, smoke, odor or other unpleasant product of the system reaching the occupants of the building.

Besides the boiler room there are, across the rear of the basement, a laundry, janitor's living quarters, meter and storage room and kitchen. The laundry is conspicuous for its modern equipment which includes laundry trays, lockers, gas plates and a dryer, all so arranged as to make laundry work easy and economical. The janitor's quarters consist of a small, one-room apartment, entered only from the rear.

Next to this apartment, and accessible both by way of the service hall and an outside entrance, is a meter and storage room. Next comes the kitchen which is equipped for serving meals in the large basement dining room. This dining room opens off the entrance vestibule through two club rooms, one for women and the other for men, connected with the dining room by arched openings. On the opposite side of the court yard are a beauty shop and a barber shop.

This plan provides for a basement which will serve the needs of the tenants, making the apartments above more rentable, and affording the building owner with a maximum income from the space devoted to dining room, barber shop and beauty parlor.



The Plans of This Apartment at Harvey, Ill., Designed by John T. and Murray D. Heatherington, Architects, Show an Effective Use of Space-Saving Equipment, and an Interesting Utilization of Basement Space.



# High Above the City

*The Roof Bungalow or Penthouse Apartment Meets the Demand for a Modern Dwelling*

ALL the advantages of a suburban home right in the heart of a great city—that hardly sounds reasonable, still it is a fact and one that every builder of city apartments can turn to his own advantage. The demand for penthouse apartments as they are known in the East, or roof bungalows as they are termed in the West, far exceeds the supply and the supply will always be limited. The result is that these homes command a rental or sale price decidedly higher than other dwellings of the same size and quality. Single houses, with full privacy, with gardens and walks, with quiet and fresh air, are being built on the roofs of apartment buildings everywhere.

It has all come about within just a few years. Down in New York City, the records show that the first buildings for which penthouses were permitted, were built in 1918. These were just for servants' quarters and during the year only three such permits were issued in Manhattan. By 1921 the figure had risen to 10, mostly one room each. The following year 23 such buildings were erected and the idea of their use as apartments seems to have gained ground. In 1927 permits for 53 such buildings were issued, many of these were for buildings where two or more penthouse apartments were planned.

The peak came last year when 73 such buildings were approved and official figures show that the number approved up to date is 391. Real estate men estimate that the number of roof apartments thus provided for in

New York City is between 600 and 1,200, the average estimate being 1,000, for today buildings are being constructed with as many as six such apartments, many of them lavish in size and appointment.

Though New York City has been the leader in the construction of this type of home, other cities throughout the country are active along the same lines and the roof apartment is sure to be a conspicuous feature of city apartment building throughout the country.

According to the owners of the buildings which provide apartments of this type, the roof apartments always rent first. It is not necessary to use any selling talk to place them. They are usually rented from the plans, considerable in advance of the completion of the building. The same situation holds in the selling of roof apartments in connection with co-operative apartment buildings.

The apartments run all the way from one room to 20 in size and the roof is divided by fire walls or lines of shrubbery so that each roof family may have the valued privacy if there is more than one tenant. The rent is higher than for the apartments below and is influenced by the amount of roof space allotted to each roof dwelling and also by the height of the building. The higher the building reaches the higher the prices which the roof apartments command.

Thus are once unadorned and unprofitable masses of brick and roofing being transformed into living quarters to beautify the skyline and add to the profits of builder and owner.

The  
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The Last Word in Luxury Is to Be Found in Many of the New Roof Apartments Which Are a Feature of the Larger Apartment Buildings of the Day.





# Home Financing on Easy Terms

BY W. L. CLAFFEY  
Secy. Oak Flooring Bureau

*Contractors and Builders are often asked for just the information contained in this article.*

THE spirit of adventure led to the discovery and early exploration of America. Columbus, Eric the Red and Vespucci were explorers—men fired by the ambition to lead the way in new fields.

The hope of a home and the promise of personal liberty led to the settlement of America. Sir Walter Raleigh, Miles Standish and William Penn saw a new freedom in the new world and because of this foresight they were successful in recruiting the bands of courageous men and women that accompanied them as early settlers to the new country.

Following the first groups of colonists there have come to America from time to time, others with the same hope of home ownership. The United States has today a population of more than 120,000,000 people and yet less than one-half of the families representing this total own the homes in which they live.

The average citizen of America still holds to this ambition, but only a comparative few have come to realize their desire.

WITH the coming of each spring, when open weather permits building operations on a national scale, some new homes are projected and new names added to the list of home owners in every city in the United States. The percentage of these, however, is not in keeping with the growth in population. The new homes each spring represent but a few of the hoped-for homes of the preceding spring. One of the principal reasons for this may be found in the probable fact that only a few of those eager to own their homes know how the majority of such buildings each year are financed. Far too many men and women still believe that before they can buy or build they must have in bank at least a major part of the cost of building or buying.

In reality, there are but few families capable of independently financing the building of a home and it is a rare instance when one is built by an individual without the employment of borrowed capital. This very class of financing is the business and source of revenue of many substantial financial institutions throughout the country.

The prospective home owner will find financial allies in his local bank and building and loan association.

IN 1831 a group of workmen living in a suburb of Philadelphia organized the first building and loan association in the United States through which, by mutual savings, they helped each other acquire homes. A recent report of the secretary of the United States League of Local Building and Loan Associations states that during the year 1927 the member associations, nearly 13,000 in number with aggregate resources of more than \$7,000,000,000, expended more than \$2,000,000,000 in financing the building of more than 600,000 homes.

In recent years, for the protection of the borrower, legislation regulating the rates of interest to be charged and the methods of conducting this business has been enacted in several states.

Any definite decision to build should be preceded by very thorough consideration of financial resources and arrived at only after it is found to be practical. A suitable building site should be owned or a certain amount of cash be available before definite steps are taken.

THE cost of the home should be regulated by the family income. Henry J. Walter, intimately associated with the building and loan activities of Pennsylvania for nearly half a century and, at present, an officer in fifteen individual corporations of the kind, has from his experience set the following standards of costs as against incomes: "The average family," says Mr. Walter, "with an annual income of \$3,000 cannot afford to build a house costing more than \$6,000. On an investment of this amount, \$1,200 should be the average amount of the down payment. The man who makes \$4,000 a year can afford an \$8,000 house and one who earns \$5,000 can own a \$10,000 home. The initial payments will, of course, be proportionate to the total cost."

Investigation of financing the building or buying of a home through an institution organized to render this service may reveal many interesting facts heretofore unknown or not fully understood. A feature of this method of financing particularly advantageous over the old "straight mortgage" is the amortization plan by which both the interest on the loan is kept up and the principal gradually decreased through small weekly or monthly payments. This method of financing should be found preferable to the straight three or five year mort-

gage, or any other arrangement requiring full payment of the principal at time of maturity or where renewals must be made in the event that payment in full cannot be met at a stated time. As a rule, such mortgages do not permit the reduction of the principal in small amounts and a savings account must be opened and systematically added to in order to meet the mortgage when due.

A MORE thorough understanding of the working of an amortized loan may be had from the following table:

*How Monthly Payments Are Applied on Each \$1,000*

Monthly Payments \$10 Applied to Interest

Month	est	Shares	Still Due	Equity
1	\$5.00	\$5.00	\$995.00	
2	4.98	5.02	989.98	
3	4.95	5.05	984.00	
4	4.92	5.08	979.85	
5	4.89	5.11	974.74	
6	4.87	5.13	969.61	
7	4.84	5.16	964.45	
8	4.82	5.18	959.27	
9	4.79	5.21	954.06	
10	4.77	5.23	948.83	
11	4.74	5.26	943.57	
12	4.71	5.29	938.28	\$61.72
At the End of the Fifth Year				
60	3.28	6.72	650.84	349.16
At the End of the Tenth Year				
120	.94	9.06	179.81	820.19
At the End of Eleven Years and Seven Months				
139	.04	8.75	.....	1,000.00
At the end of this period a total of \$1,388.79 will have been paid—\$388.79 in interest charges and \$1,000 in shares.				

By this method of financing, the house may be paid for on the same basis and at practically the same rate

as rent. Should \$5,000 be the amount borrowed on an amortized plan, the borrower will pay \$50.00 a month, as he would otherwise pay his rent. In 11 years and 7 months the home will be his, free and clear. As the monthly payments continue, instead of a collection of receipts only, the payer will have a steadily increasing equity in his home to show for the money paid out.

The period over which payments of shares and interest are extended is not always one of 11 years and 7 months. Some contracts of the kind provide for the liquidation of the loan in less time.

WHEN the decision to buy or build is made, the proposition should be approached carefully and systematically. An appropriate first step will be in the full consideration of the particular type of home best suited for the family to be housed.

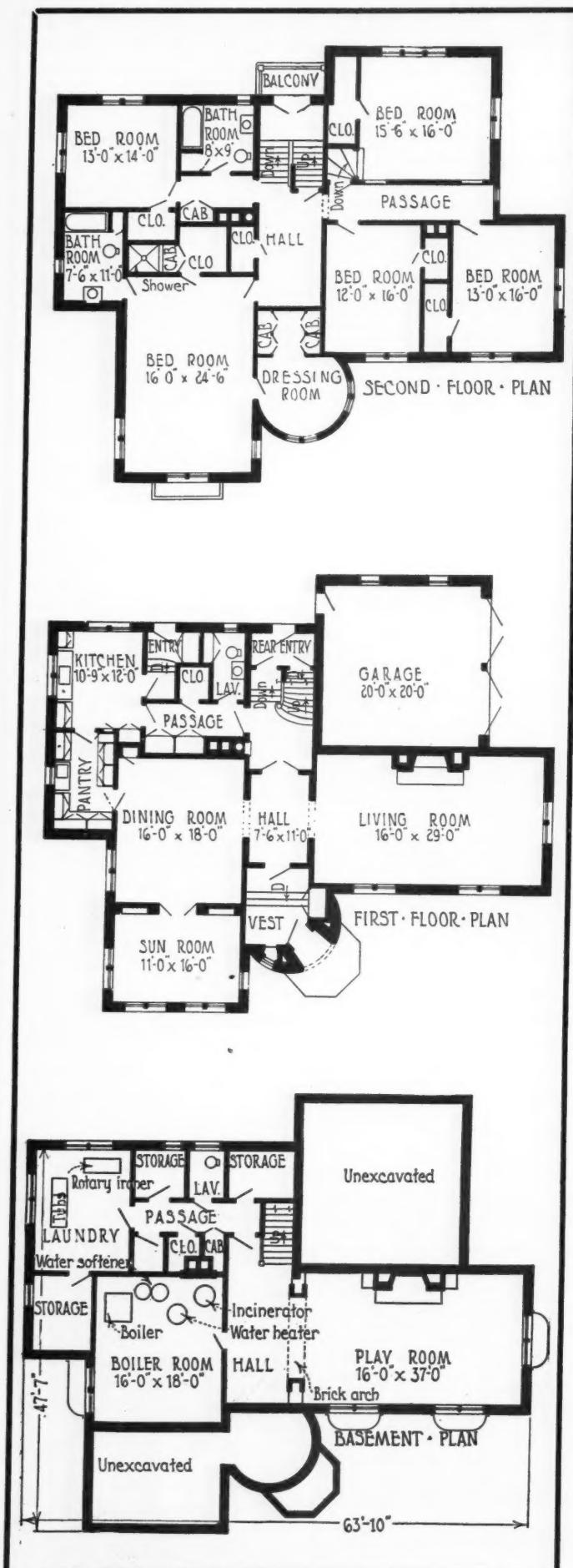
The bungalow and two-story dwelling are each favored by certain people and both types of homes are best fitted to fill particular family requirements. If the financing is feasible and the close proximity of another family is not thought objectionable, the duplex type of house should be given consideration. This style of dwelling, two homes on one foundation and under one roof, will house two families and may be built at a cost not far in excess of that required for a single dwelling of the same material and design. The rent from that portion of the duplex house not occupied by the owner will help pay off the loan in less time than would be required without this source of revenue.

The question of materials is another to be settled early in the calculations. With a set amount of money the plans for the house will have certain limitations; but, regardless of the amount available, the home builder should keep in mind at all times the thought of turning his money into the "greatest amount" of house possible.

In planning the interior of the house its convenience and comfort should never be lost sight of. Comfort and convenience in a home are not only a personal value; they are of very tangible value. A house that has comfortably accommodated one family, without necessitating an undue amount of labor by the housekeeper to keep it clean and attractive, may be expected to offer the same advantages to another family of equal size. If these advantages are evident in the layout or arrangement of the house, the appeal will be readily recognized and appreciated by the prospective renter or buyer should the house be offered for rent or sale.

If the house is one which can easily be turned into cash or rental revenue, the owner's problems will be far less worrying when he offers it on the market.





The Floor Plans of Milwaukee's First Blue Star Homes—Residence of A. A. Naulin; H. W. Buemming, Architect.

# MILWAUKEE'S

RECENTLY the American Gas Association determined that homes, which meet certain standards, especially with reference to the facilities for the utilization of gas service, should be entitled to a certificate attesting to these facts, thus proclaiming them as quality homes and entitled to be known as *Blue Star* homes. A certificate is issued to the owner of a *Blue Star* Home and this certificate descends with the title to subsequent owners, if perchance it is ever transferred.

The standards have been fixed with a view to insuring to the occupants of a *Blue Star* Home the highest type of modern gas service. Gas is indeed "a servant in the house" which needs only slight encouragement to minister to the comfort and well being of the household. This encouragement consists of adequate piping, adequate flues, adequate outlets in convenient places which, when a home is constructed, may be installed with a minimum of expense.

The standards include the installation of certain appliances which ordinarily are incorporated when a home is built. They belong in every home, but more especially in a *Blue Star* Home.

A cottage as well as a mansion may earn the *Blue Star* Certificate. Size is not a factor. That it should be well built goes without saying. The important elements are in the matter of gas service.

In a *Blue Star* Home the household enjoys many splendid conveniences. The house is heated with gas, automatically, requiring no attention from the beginning to the end of the heating season. Hot water is obtained by means of an automatic gas water heater, which again requires of the household merely the turning of a faucet to get hot water. It means that the kitchen is equipped with a high quality gas range, and that facilities are at hand also for the use of gas to destroy waste, to wash clothes, to dry them, to iron them, all with gas service. It means that gas may be used in fireplaces for auxiliary heat. It means that gas may be used for refrigeration.

A *Blue Star* Home is equipped with flues for the ventilation of gas burning appliances, all to the end that the household may enjoy to the full the many benefits of twentieth century gas service.

The first home in Milwaukee to be awarded the *Blue Star* Certificate is that of Mr. A. A. Naulin in Washington Highlands. Even before the standards which have been adopted as a basis for the award of this certificate were fully formulated, Mr. Naulin gave notice that he was about to erect a home and wished it to be a *Blue Star* Home.

A request for a copy of the standards as soon as they were available was filed and in due time they were given to the architect, Mr. H. W. Buemming, in order that the plans might incorporate all the needed requirements.

The builder of a *Blue Star* Home is wise if he follows this course. Certain of the standards relate to chimney construction which are best complied with while the foundation is being built and before the basement floor is laid.

Likewise, when it is remembered that a *Blue Star* Home has no need for coal bins or ash pits, it is well to make plans for the utilization of this space in more profitable ways. The manner in which basement space may be utilized is splendidly illustrated in Mr. Naulin's home by the spacious recreation hall shown in the basement floor plan. Location of heating plant, water heater, arrangement of flues, etc., for greatest efficiency and to conserve space for other purposes are best determined

# E'SFIRST "BLUE STAR" HOME



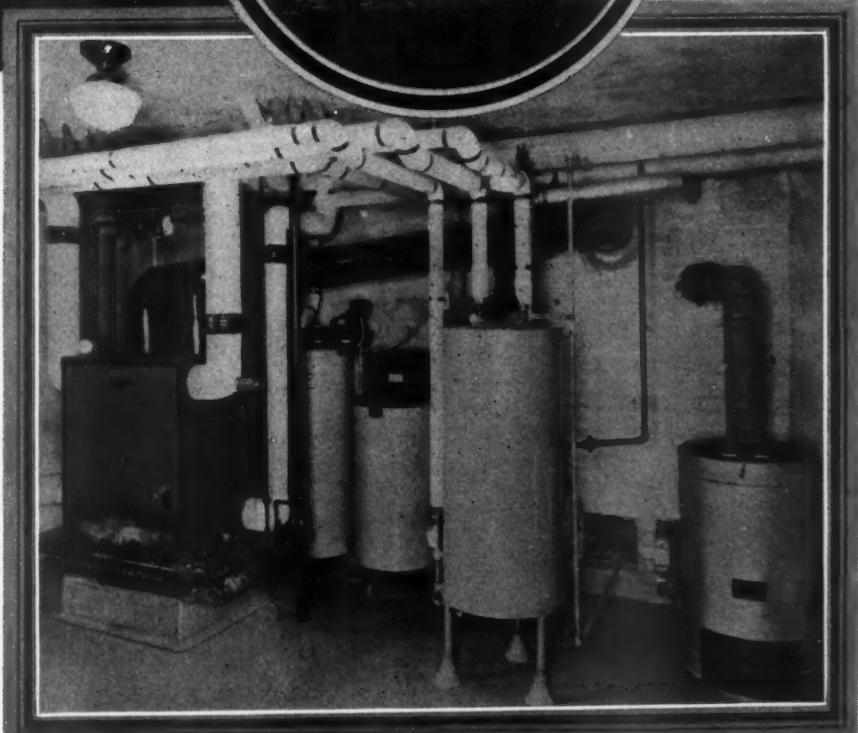
Residence of Mr. A. A. Naulin, Washington Highlands, Milwaukee, Wis.; H. W. Buemming, Architect. General view of this beautiful home and (below) a glimpse of the gas burning equipment in the basement.



when the plans are being drawn.

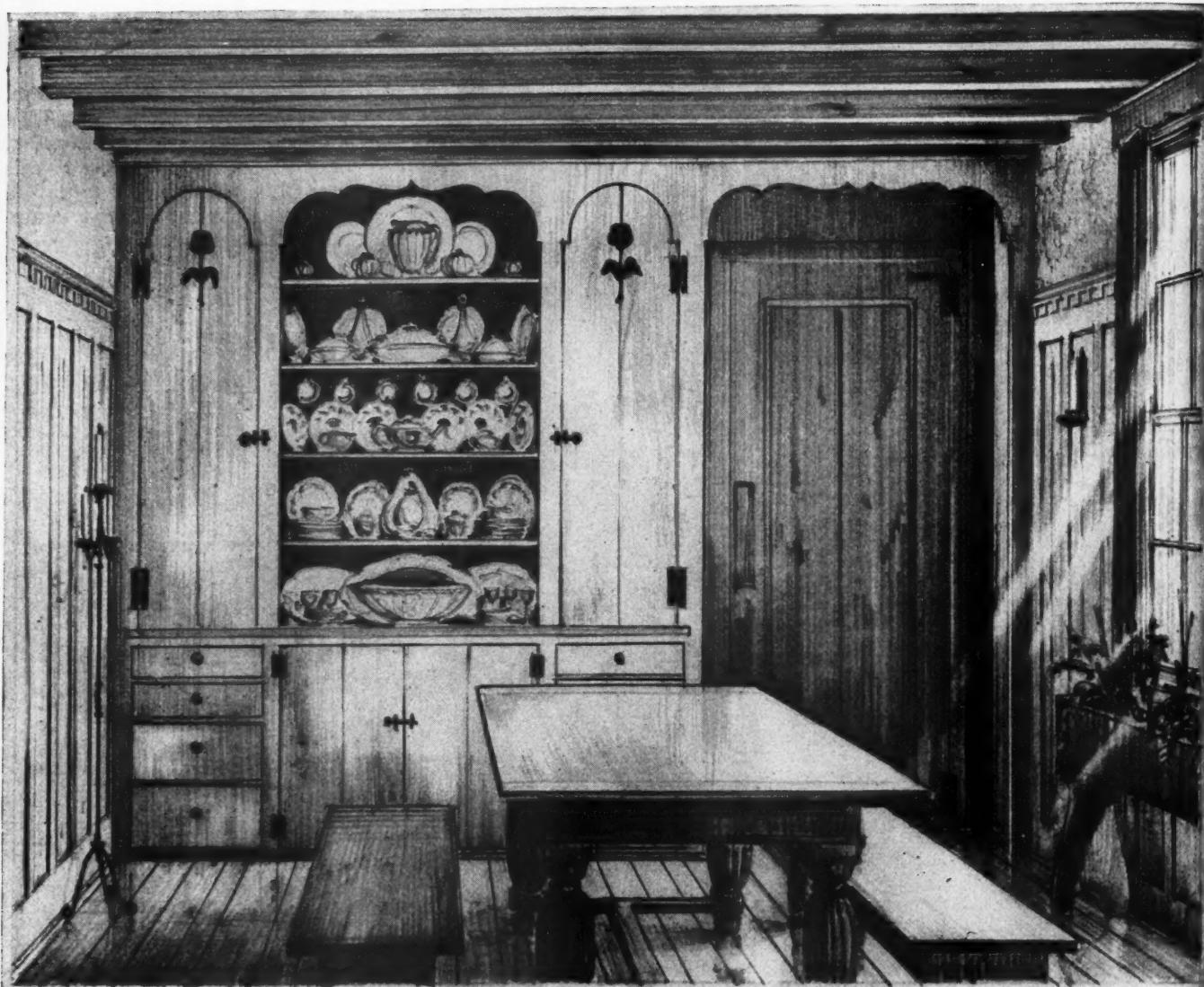
In the boiler room of the Naulin home we find a gas fired heating plant unobtrusively off in a corner and alongside we find an automatic gas water heater of a capacity sufficient to supply the several baths as well as the laundry and kitchen with hot water. A gas fired incinerator completes the battery of equipment in the boiler room. In it is consumed not only table and kitchen waste, but all manner of household rubbish, thus making it possible always to keep the basement clean and free from accumulations that ordinarily cannot well be avoided.

In the laundry we find facilities for washing, drying and ironing clothes by means of gas appliances. It is an important part of the basement.

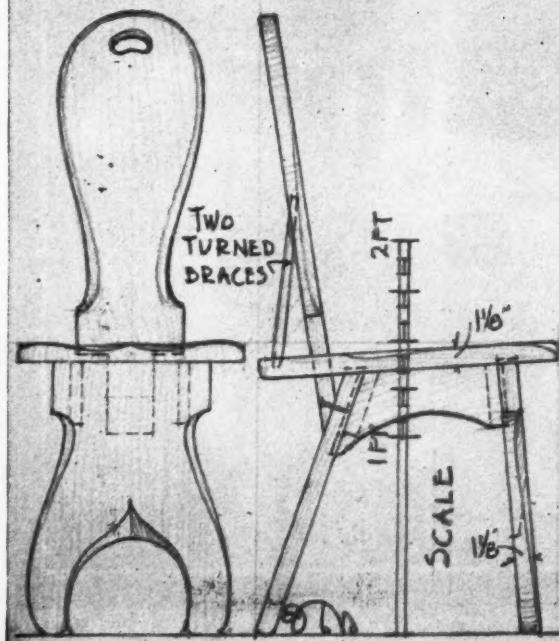


# Modern Home Interiors

*The First of a Series of Plates*



## AN UNCONVENTIONAL DINING ROOM WITH AN ATMOSPHERE OF THE ANTIQUE.



THIS INTERESTING COMPOSITION, AS SEEN FROM THE LIVING ROOM THRU A WIDE OPENING IN THE OPPOSITE WALL WOULD PRESENT A PICTURE OF UNUSUAL CHARM.

THE WOODWORK SHOULD BE STAINED-PLASTER TINTED IN TWO TONES, BACK OF SHELVES PAINTED IN A DARK FLAT TONE TO CONTRAST WITH THE DISPLAY.

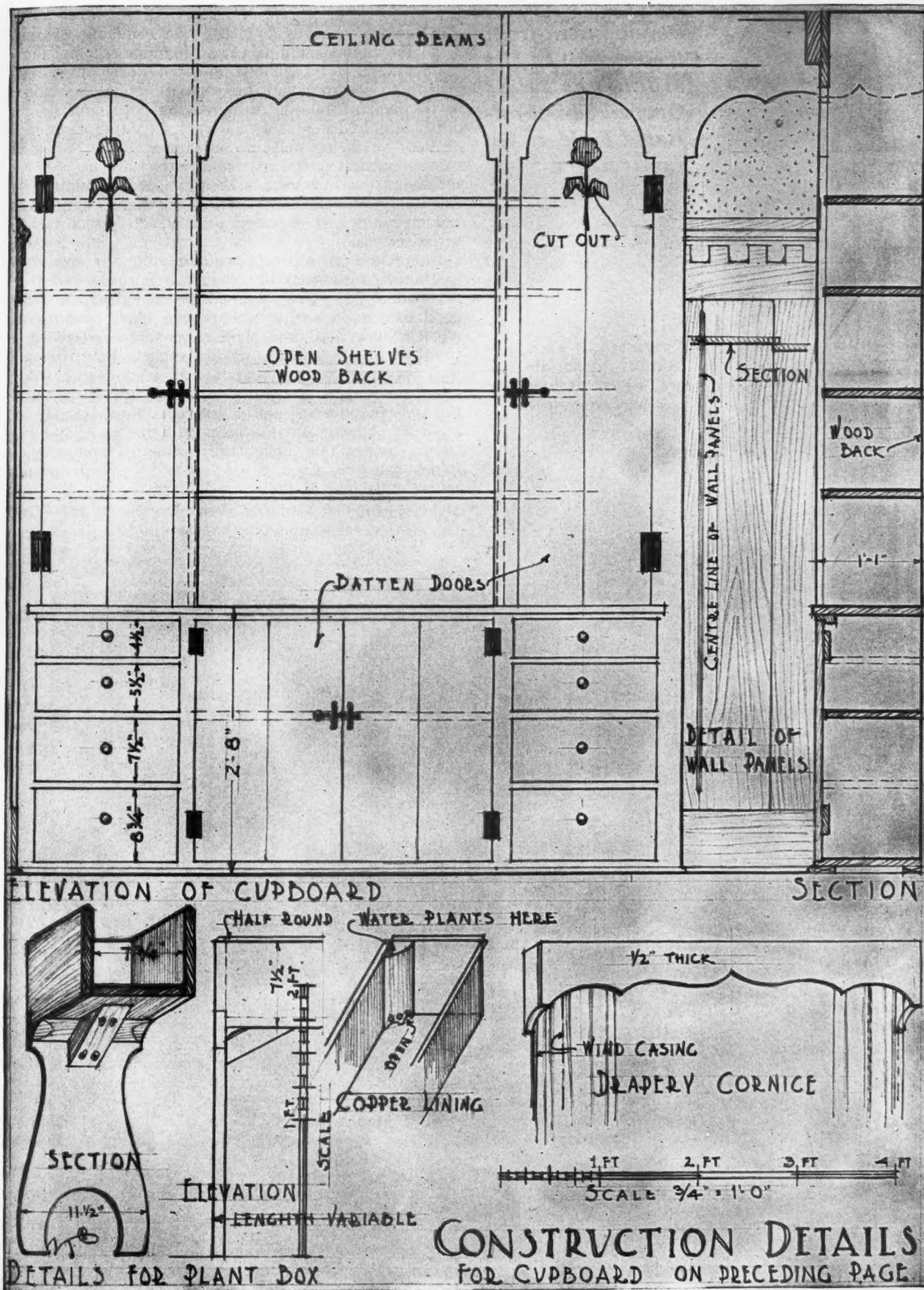
THE WAINGRASS IS OF SHEATHING LAPPED TO FORM PANELS AND BUTTED TO THE CAP AND BASE.

A RANDOM WIDTH PLANK FLOOR PROPERLY TREATED IS PRACTICAL AND DISTINCTIVE.

STURDY CHAIRS AS SHOWN AT LEFT ARE EASILY BUILT AND ARE QUAINTE AND IN HARMONY WITH THIS ROOM.

# —Details of a Dining Room

Prepared by Eldred Mowery and Richard G. Kimbell



# Floor Sander Progress

By A. A. CLARKE

***Development from Heavy to Light Machines Has Opened This Profitable Field to All Contractors.***



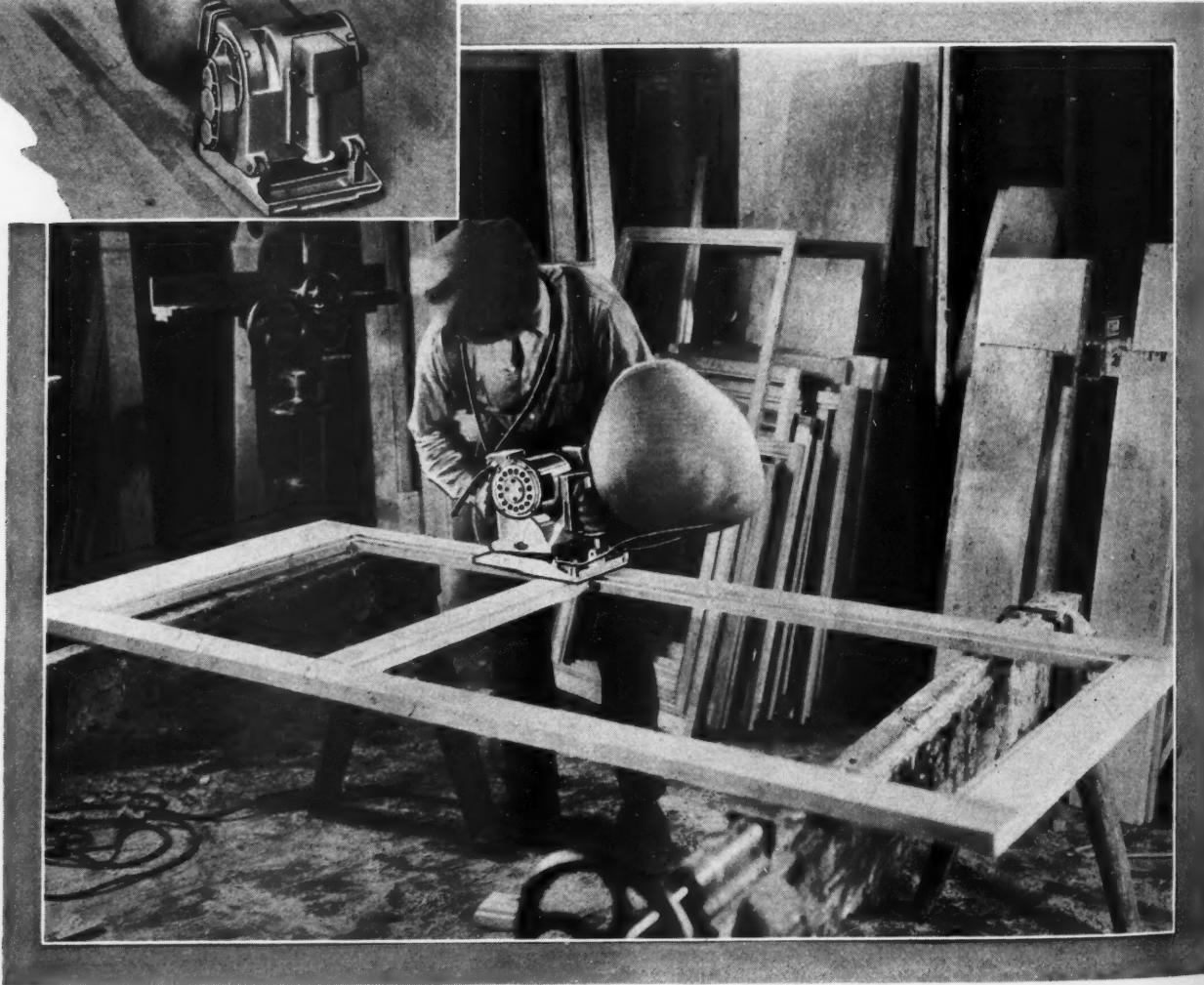
Originally a shop sander, a handle was added for floor surfacing.

**T**IMES change, and with the changing of time the methods and means of doing or accomplishing a certain thing must undergo development and growth to conform with progress. This has been done in the field of sanding machines as borne out by the outstandingly different light weight, easy-to-operate type of floor surfacing machine or sander which has come to such success in the past few years.

Sanding has not always been available at almost the ease of vacuum cleaner operation, but thanks to mechanical ingenuity and engineering skill such has now come to be the case.

There are many types of sanding or surfacing machines on the market which are far removed from the ancient days when floors were smoothed and whitened with sand rubbed about by a block of stone or wood. Since that time planes and scrapers have been used to cut down floors and make them beautiful, and it is not so very many years ago that many men would spend many days down on their hands and knees scraping and sandpapering on the floor of a beautiful mansion in order to bring out the beauty of the wood and give to the owner that delightful feeling of completeness which can only come through good floors in keeping with the balance of the surroundings.

Today anyone can have good floors and practically



every home has them. Electricity has helped greatly in this work, furnishing the means of operating sanding machines which are capable of doing the work of several men and performing a much better job at the same time.

It has come to be known that beautiful and smooth floors are not only satisfying to the esthetic senses but are economical as well from the standpoint of preserving the floor covering. This is readily understood by anyone when their attention is called to the fact that upstanding edges of floor boards cause greater pressure on the floor covering at that particular point and are bound to result in excess wear of the floor covering.

**A**BOUT thirty-five years ago a few machines made their appearance on the market for the sanding of floors. They were big, heavy, cumbersome and difficult to handle. Several men were needed to move them about from place to place and at best they did only a very ordinary job in comparison with the modern work of today. Some of them are still in existence, great big, heavy, clumsy machines, requiring 10 horsepower motors and upon which the operator would stand as he propelled it about the floor.

Later on these big, tremendously heavy machines gave way to machines of lighter weight. Smaller motors were used, the drums were made smaller and the entire mechanism reduced in size and weight so as to permit one man, a strong man, to operate them. Many of these machines are still in use and do good work, performing the function of grinding down floors, but they represent such a tremendous drain upon human energy, use so much power and require so much extra expense, such as trucking them about and making special connections, that they are fast falling into disuse, as the trend of the sanding machine market indicates.

In the past when there were only the big, heavy machines, a separate business of floor surfacing grew up, in itself a flourishing one, as many of those engaged in the business of surfacing floors earn incomes running substantially into five figures. But the contractor has not been unmindful of the fact that many times he is forced to wait for the floor surfacing contractor to get to his job, and that many times the class of work given to him is not to his entire liking. This has resulted in a ready market for the powerful, fast-cutting, light weight floor sanders now obtainable.

The light weight machine has not come into its own without a struggle, for many things were needed in its development which the market did not afford. To give you a little simple outline, I will go back before the war when such a thing as a sanding machine that could be easily carried in one hand was unknown. At that time there was developed a machine weighing about 20 pounds for the purpose of sanding railroad coaches and for use in woodworking shops. A number of them appeared on the market, some of which are still in use.

**I**T was late in 1921 that the first real progress in the manufacture of portable sanding machines took place, for then an active but small production was established and concentrated efforts made toward distributing machines to the trade. The trade liked them and the machines gave wonderful results; but although they were equipped with motors of standard manufacture still they developed quite a bit of trouble in this respect, with the result that motors of a special manufacture were installed; which resulted in a great forward step toward giving contractors and builders a portable sanding machine which they could use in their shops and for small areas of floors.

At that time floor surfacing in connection with this

portable sanding machine was not seriously thought of, but contractors and builders using them in their woodworking shops and noting their great cutting ability would use them for sanding floors, although they had to stoop over while doing so; and this resulted in a demand for a handle to operate the machine. Handles were furnished, but when the handles were used with the machines, the machines many times received such severe service that they were not equal to it.

However, the dawn of a new era in floor sanding machines was pressing upon the small portable hand sander, and with the demand for light weight equip-



Handy for work in close quarters.

ment came special development of very special motors and a machine dustless in operation to take care of the need.

Little by little with the passing of time each and every part of the small surfacing machine was subjected to the severe test of floor surfacing, subjected to the continuous day in and day out grind. Parts were strengthened, special steels of special alloys were brought into use to replace those which did not stand up, and all the while it had to be borne in mind that light weight and ease of operation must be strictly adhered to.

Months and months of motor development followed, resulting in motors of greater power for their size and weight than had ever been known before, and thus were light weight, powerful, fast cutting sanders developed, giving to every contractor and builder a source of additional profit and the greater satisfaction which results from beautiful floors, just as they want them done and without delay.



# Questions and Answers

This Department Conducted by  
V. L. Sherman, Engineering Dept. Lewis Institute

**Have You a Question You Would Like to Have Someone Answer?**  
**Have You An Answer to Any of the Questions Listed Below?**

## QUESTIONS TO BE ANSWERED IN THE SEPTEMBER ISSUE

**Give Us Your Answer—Those Published Will Be Paid For.**

1. What definite information is there as to the rather general term "humidity" in dwellings?
2. Should wood framing ever carry brick or hollow tile walls or curtain walls?
3. What responsibility should be taken by the general contractor for work by a sub-contractor after the original contract is fulfilled?
4. Can a fireplace and chimney be built on an outside house wall without disturbing the wall or foundation?
5. Can I have a design for a rigid but simple rafter joint for an awning or glazing frame of two rafters and plate supported by two corner posts, about 14 ft. wide by 9 ft. deep?
6. What sure methods are there for water-proofing foundation walls?
7. Are fire-stops any help in preventing heat loss in houses?
8. Why should a few of the oil-burners I have installed in my houses prove unsatisfactory to the owners when I know from experience that they should be entirely satisfactory?

**SEE AUGUST FOR ANSWERS TO JUNE QUESTIONS**

**Question:** What advantages are gained by adding a vacuum pump to a steam heating system already installed?

**ANSWER:** A gravity one-pipe system of steam heating returns the condensed steam through the supply risers. Supply and return are through one valve. Therefor the radiator capacity range is small, as governed by the temperatures of steam between say 1 pound and 10 pounds pressures, 214 to 237 degrees, and the respective condensation rates. If a two pipe system is changed by the addition of a vacuum pump on the return line, steam can be circulated at less than atmospheric pressure, say from 20 inches vacuum to atmospheric pressure at temperatures from 158 degrees to 212 degrees. This latter range of radiator temperature makes the entire system much more adaptable to the variable outside weather temperatures and helps to eliminate the costs and discomforts of overheating.

Another advantage is the steaming at much lower boiler temperatures on starting the plant. That is to say the entire system is in circulation much more quickly.

**Question:** Are cost-plus contracts as well regarded by contractors and owners as they were a few years ago?

**ANSWER:** Briefly the contractor is perfectly safe as regards any particular contract, and is in a position to satisfy more easily an owner with whims, partialities, and plenty of money to spend on the job. But while the contractor may be perfectly safe on any one contract such controversies or arguments as might arise with any other kind of an owner would not be likely to raise his reputation among prospective owners.

An owner may safely enter a cost-plus contract if he is thoroughly familiar with the work involved in the contract,

and better still if he is in a position to supply material or control the prices of material.

When contractors and owners are really intimate and the contract is part of a general business relationship such a contract may be desirable. Under other conditions cost-plus contracts do not seem to be in favor.

**Question:** Can I add an inch of cement to a rough cement basement floor in order to make a smooth floor?

**ANSWER:** It can be done, but as to how long such an over-layer will last is not to be determined. If the old floor is not too heavy and no harm would be done in breaking it up we would suggest an entire new floor. Cement walks which may be very well laid in all other respects will show surface breaks and flaking and chipping because of a thin finishing coat of finer body being troweled over a set concrete of coarser aggregate.

Returning to the question, we would suggest that the floor be cleaned of all dirt as thoroughly as possible and that wire mesh be laid over it. The wire should be folded back about every 12 inches as it is put down, so that the wire will be kept about a quarter of an inch above the floor when it is flattened out. The cement may be mixed with a floor hardener to make it dustless and waterproof. This cement should be troweled at least a foot up the walls with a well rounded floor joint, and the whole floor creased into squares not more than 18 inches on a side. When cracks follow these creases they may be remedied more easily.

**Question:** How can casement windows be designed so that they swing in and still remain rain-proof?

**ANSWER:** In-swinging steel casements when provided with gaskets would certainly be rain-proof unless the frame and

glazing were faulty. But with wood casements provision must be made for guarding the joint at the sill. If this is done and the window is well made and well glazed it will prove as rain-proof as the average double hung window. If the house is poorly built so that the window does not continue to fit the frame the results are disastrous.

**Question: How can I heat an "obstinate" room using the present hot-air heating system without much change?**

**ANSWER:** If the hot-air duct now in use is too small for the room the chances for improvement are remote. First see that the windows are snug. A great deal of heat is lost through the sash and frame. If possible provide storm windows. If the room is next under the roof examine the eaves, soffits and roofing for leakage of air. Stop all circulation of air within the outside walls by closing the wall at the top under the rafters or by using a wall fill. If a lath and plaster ceiling is the only separation from an open attic then floor it, quilt it, or fill it with insulation. Many so called "obstinate" rooms are actually the reverse. They take too much heat and dissipate it.

The room may not get enough heat. This may be because the layout of the system is wrong. Assuming the leaders have enough pitch, which is usual, and that the risers or stacks are free from obstructions and nearly straight, the following equations hold good for determining cross-section area of basement pipes. They are for the average wall or frame. Other constructions vary a bit, but not very much unless insulation is a prime point.

#### First Floor Room

$$\left( \frac{\text{Glass in sq.ft.}}{12} + \frac{\text{Net wall in sq.ft.}}{60} + \frac{\text{Cubic contents}}{800} \right) \times 9 = \text{Pipe area.}$$

#### Second Floor Room

$$\left( \frac{\text{Glass in sq.ft.}}{12} + \frac{\text{Net wall in sq.ft.}}{60} + \frac{\text{Cubic contents}}{800} \right) \times 6 = \text{Pipe area.}$$

#### Third Floor Room

$$\left( \frac{\text{Glass in sq.ft.}}{12} + \frac{\text{Net wall in sq.ft.}}{60} + \frac{\text{Cubic contents}}{800} \right) \times 5 = \text{Pipe area.}$$

It will be noticed from these figures that the pipe area decreases with the height of the floor above the furnace. A taller stack giving a greater air velocity. This suggests another remedy for a cold room. If the present register can be blocked off and the hot-air duct can be carried up a wall to the ceiling level and the register placed close to the ceiling there will be an improvement. A cold floor air-strata will sometimes obstruct and even entirely check the heat in a riser.

If the room is such that the door must be closed, it is well to cut the door at least an inch above the floor or if that is not enough to use louvres in place of ordinary paneling on the lower half of the door.

**Question: What effect do radiator covers have on the heating values of radiators?**

**ANSWER:** When a radiator cover hinders the circulation of air about or through the radiator there is a lessening of heat to the room, because the air surrounding the radiator maintains a very high temperature, and the heat lost from within the radiator is less than it would be if the surrounding atmosphere were cooler.

When enclosing radiators it should be remembered that any hindrance of circulation results in excessive temperatures at some of the points within the enclosure. Should this be along the wall heat losses will result through that portion of the wall at a far greater rate than if the wall within the enclosure were insulated. Another point to remember is to keep the inner surfaces of the enclosure as smooth as possible, and accessible for cleaning, because dust will choke it.

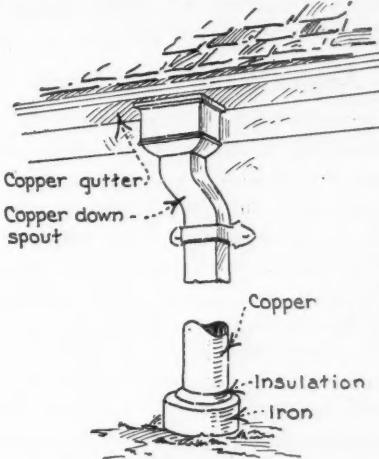
**Question: Can a frame house on a box-sill be effectively anchored to a foundation wall?**

**ANSWER:** Except to prevent slight movement of the wall plate and frame of the house in building not much advantage comes from anchoring to a block wall. There is a little advantage so far as wind pressure goes in anchoring with a bolt through the plate to a poured foundation wall. Some further advantage is gained by running the bolt through from above the shoe which the studs rest on. Still further advantage comes from using diagonal sheathing since that ties the wall more securely to the sill. The anchoring of a house to its foundation wall or of a roof to the house wall is not as general as formerly, but might well be.

**Question: What Is Electrolysis?**

**ANSWER:** A definite chemical change occurring in any material through which an electric current passes, even of very low voltage, when independent of the heating effects of the current, is termed electrolysis. And the substance so effected is called an electrolyte.

When electric cars were brought into use on the city streets it was found that piping of any sort which could act as conductor of electricity and was lying close enough



INSULATION AT JOINT OF TWO DIFFERENT METALS

to the track was subject to corrosion. The grounded current "strayed" away from rails, which were not then well bonded, and to some extent passed through the piping. The action is possible in building where galvanic action is set up between two metals by the aid of moisture. Copper and steel for instance. Copper gutters and down-spouts should not be joined to steel or iron piping without thorough installation.



#### Balsam-Wool Improved

THE Wood Conversion Company, Cloquet, Minn., has announced that beginning July 1, 1929, the heavy kraft liners enclosing the wood fiber used in Balsam-Wool is to be replaced by a heavy crepe paper which, besides being tougher, stronger and more flexible, has a 25 per cent stretch which makes the insulating blanket practically puncture-proof. A new machine has been developed that does this creping as a part of the regular process of manufacture which places this better and more expensive lining within the reach of the general building market.

Several other improvements have also been made to facilitate the use of this material and the manufacturing plant has been expanded by a 360-foot extension to its warehouse, increased office and laboratory space and a doubling of the capacity of the charger house which serves both the Balsam-Wool and Nu-Wood machines. Within the next few months the drier for latter product will be increased from a capacity of 70,000 to 125,000 feet per day.

# A Comparison of Roofs

Analyzing the Square, the Hexagon and the Octagon Roof - Details on Page Opposite

By JOHN T. NEUFELD

**A** COMPARISON of the square, the hexagon and the octagon roof will illustrate or clear up many of the seemingly perplexing problems connected with roofs other than square cornered. There are many things that these roofs have in common and many things that are different.

## Kinds of Rafters

The framing parts of these roofs are practically the same, being composed of common rafters, hip rafters and jack rafters. The common rafter is the same in all respects in each of these roofs; that is, for a roof of given span and pitch the run, length and angle or cut of the common rafter will be the same. Figs. 1, 3 and 4 illustrate by single lines the outline of each of the three roofs in plan.

## Angles in the Three Roofs

The hips of any roof divide it into different parts similar to dividing a circle or a piece of pie.

On a square roof the hip rafters divide the roof into four parts, each part being one-fourth of a circle, or  $\frac{1}{4}$  of 360 = 90 degrees. The hip rafter and the common rafter again make an angle of 45 degrees.

On the hexagon roof the six hip rafters divide the roof into six parts and therefore the angle between two hips on a hexagon is  $\frac{1}{6}$  of 360 = 60 degrees. The hip rafter and the common rafter again make an angle one-half as great or  $\frac{1}{2}$  of 60 = 30 degrees.

On an octagon roof the hip rafters divide the roof into eight parts and two adjacent hips make an angle of  $\frac{1}{8}$  of 360 = 45 degrees. The hip and the common rafters form an angle of  $\frac{1}{2}$  of 45 = 22½ degrees.

## The Tangent

In geometry we learn that a line that is at right angles to another line is tangent to that line, thus the plate of a roof is tangent to the common rafter. Therefore we call the distance from the foot of the first common rafter to the corner of the plate "the tangent," as is shown in the three illustrations, 1, 3 and 4.

On a square-cornered building the tangent is the same as the run of the common rafter, therefore we have so many rules in roof framing in which the run of the rafter gives a number to be used on the square to obtain the side cut of a rafter. For example, we have the rule stating that to obtain

the side cut of the jack rafter we must take the run of the common rafter on one arm of the square and the length of the common rafter on the other arm. Fig. 2 shows that it is really the tangent and the length of the common rafter that gives the side cut for the jack rafter.

As stated, the tangent is the same as the run of the common rafter on a square-cornered roof, but on a six-sided or hexagon roof this is not the case. The hip rafter on a hexagon roof makes an angle of 30 degrees and the tangent for this angle is .57735 parts of the run (taken from trigonometry). Generally, the length of the tangent (length of plate) per foot of run is given; thus for a one-foot run, or 12 inches, the tangent length is .57735 of 12 = 6.93 inches. This is shown in Fig. 4.

On the octagon roof the hip makes an angle of 22½ degrees with the common rafters. The tangent for this angle is given as .41421 parts of the run. For a one-foot run, or 12 inches, the tangent is .41421 × 12 = 4.97 inches. See Fig. 3.

## Length of Plate

The tangent value just found gives us a chance to find the length of plate for any size roof given. We note that one length is two times the tangent. The roof in the illustration has a run of 6 feet and we have just found that on a hexagon the tangent is 6.93 inches for every foot of run, therefore the length of tangent is  $6.93 \times 6 = 41.58$  inches and the plate on each side is twice as long or  $41.58 \times 2 = 83.16$  inches = 6 feet 11-3/16 inches.

As the span is twice as long as the run, it is easiest to multiply the tangent length per foot run by the

span to get the length of the plate for one side. The span in this case is 12 feet and the tangent length per foot run is 6.93. The length of the plate is  $6.93 \times 12 = 83.16$  inches = 6 feet 11-3/16 inches.

The same method can be used to find the plate length of the octagon roof. The tangent length per foot run is 4.97 inches and the span is 12 feet, therefore the length of the plate for each side is  $4.97 \times 12 = 59.64$  inches = 4 feet 11½ inches.

If we take the number giving the tangent length on the tongue of the square and 12 inches on the blade we obtain the angle for the cut of the plate at the corner. Thus, for the hexagon

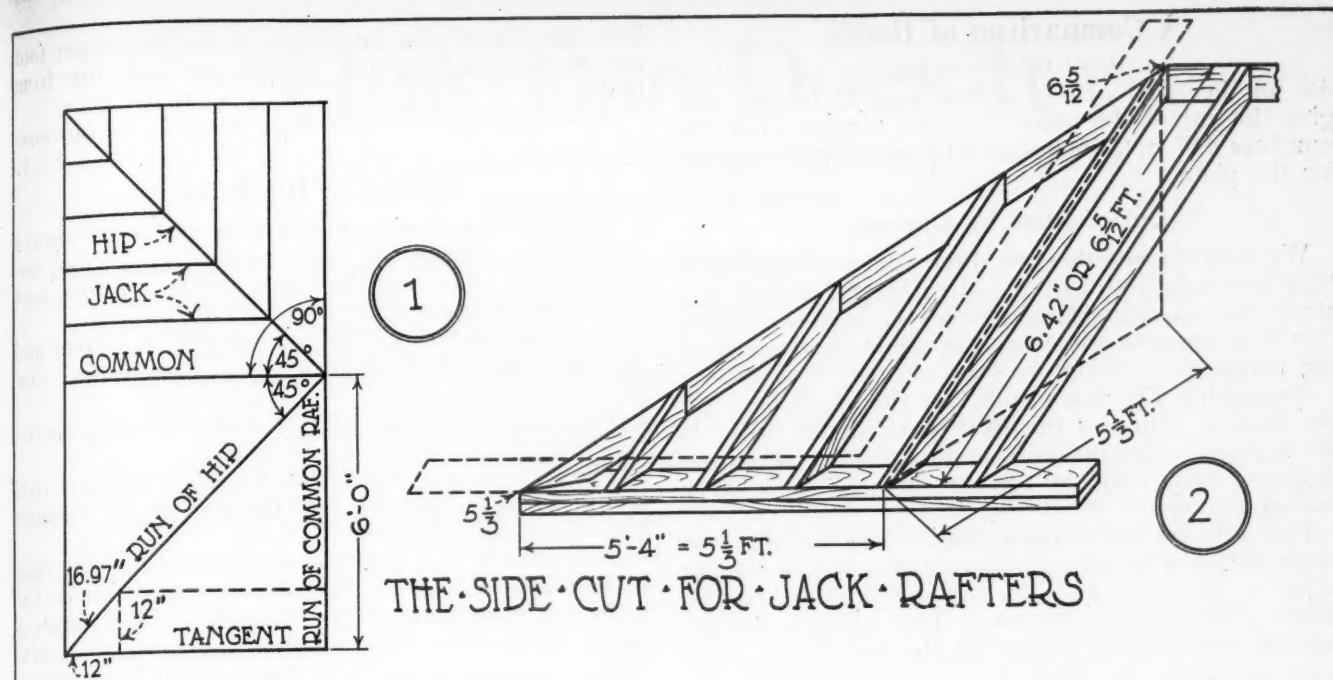
## Problems

1. A hexagon roof has a span of 16 feet. What is the length of the plate on a side?
2. What is the total run of the hip rafter for the roof in problem 1?
3. If the total run of the common rafter on an octagon roof is 12 feet, what would be the run of the hip rafter?
4. What is the length of the plate for one side of the octagon roof of problem 3?
5. How long is the hip rafter for problem 3 if the rise is 6 feet?

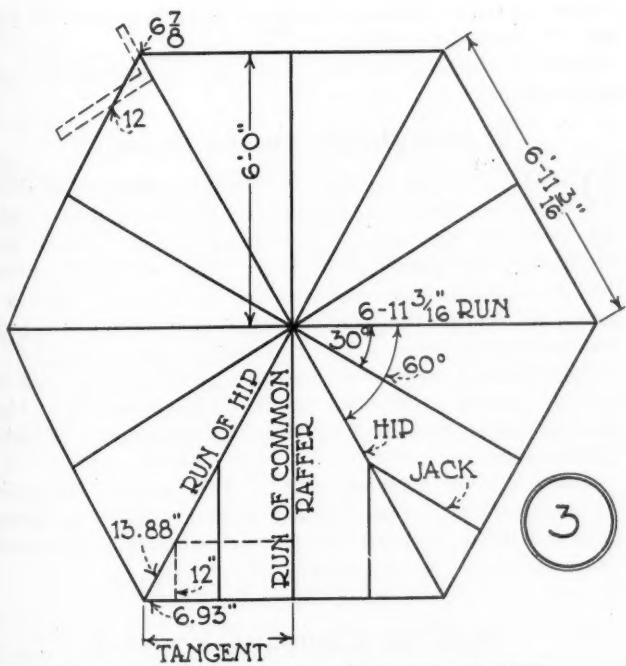
## Answers

1. We have found that the length of plate is equal to the "tangent length per foot run" times the span in feet, therefore the length of plate for a hexagon roof with a 16-foot span would be  $6.93 \times 16 = 110.88$  inches = 9 feet 2½ inches.
2. The run of hip per foot run of common rafter is 13.86 inches and the run of common rafter is 8 feet. The total run of hip is  $13.86 \times 8 = 110.88$  inches = 9 feet 2½ inches. Note that the run of the hip rafter and the length of each piece of the plate are the same.
3. The total run of the hip rafter is  $12.98 \times 12 = 155.76$  inches = 12 feet 11¾ inches.
4. The length of one side of the plate is  $4.97 \times 24 = 119.28$  inches = 9 feet 11¼ inches.
5. The length of the hip rafter will be the square root of the  $(\text{run}^2 + \text{rise}^2)$ . The run of hip is  $155.76$  inches = 12.98 feet. Therefore the length of hip =  $\sqrt{12.98^2 + 6^2} = \sqrt{204.4804} = 114.299$  feet = 14 feet 3⅞ inches.

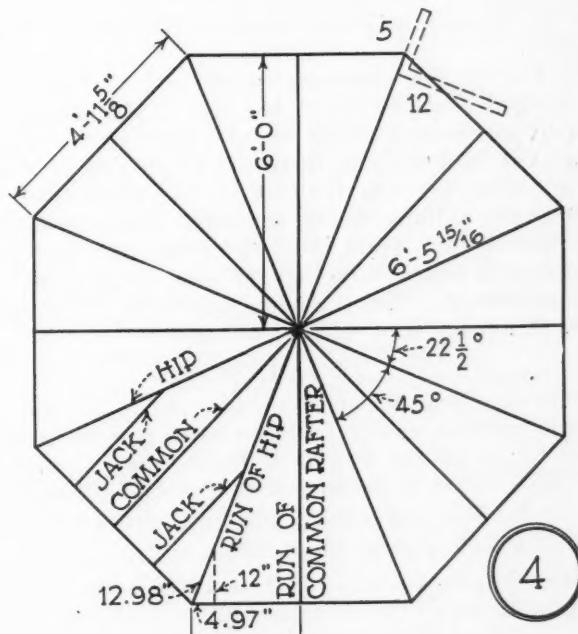
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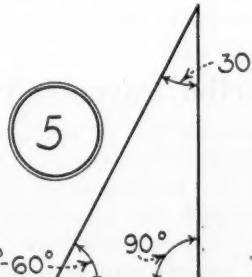
## SQUARE • ROOF



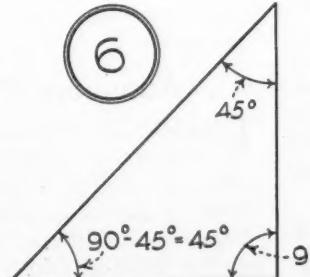
## HEXAGON • OR • SIX • SIDED • ROOF



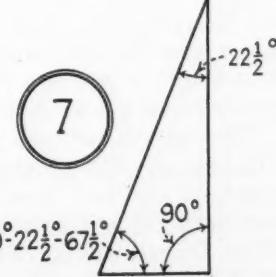
## OCTAGON • OR • EIGHT • SIDED • ROOF



## PLATE • OF • HEXAGON



## PLATE • OF • SQUARE • ROOF



## PLATE • OF • OCTAGON • ROOF

Comparative Study of Square, Hexagon and Octagon Roofs.

## A Comparison of Roofs

(Continued from page 90)

the number 6.93 or  $6\frac{1}{8}$  inches and 12 inches will give the cut of the plate. On the octagon roof the numbers 4.97 or 5 inches and 12 inches give the cut for the plate.

### Cut of Plate by Degrees

We have learned that the three angles of a triangle together make 180 degrees; also that for a right triangle the two acute angles make 90 degrees. From this it is easy to solve for the angle of the cut of the plate.

Examining Fig. 5 we note that the angle between the Run of Hip and the Run of Common rafter is 30 degrees. The opposite angle is  $90 - 30 = 60$  degrees; this, then, is the cut for the plate of a hexagon roof.

Fig. 7 is for the octagon roof. We see that the angle between the run of hip and the run of common rafter is  $22\frac{1}{2}$  degrees. The opposite angle therefore is  $90 - 22\frac{1}{2} = 67\frac{1}{2}$  degrees. This, then, is the cut for the plate at the corner of the building.

### Run of Hip Rafter

We have previously found that on a square roof the run of the hip rafter per foot run of common rafter is 16.97 inches. We may also find the run of the hexagon and also of the octagon hip rafter after we have found the tangent length per foot of run.

The run of the common rafter and the tangent form a right angle of which the run of the hip rafter is the hypotenuse. Using the principle of the right triangle we find the run of hip per foot run of common by squaring the lengths of the two sides of the triangle, adding them together and extracting the square root. Thus the run of hip per foot run of common is equal to the square root of  $(\text{tangent}^2 + \text{run of common}^2)$ . For the hexagon this is as follows:

Run of hip per foot run of common =

$$\sqrt{6.93^2 + 12^2} = 13.86 \text{ inches.}$$

After we have the run of hip per foot run of common we can easily find the total run by multiplying by 6, as the run is 6 feet. Run of hip =  $6 \times 13.86 = 83.16$  inches = 6 feet 11-3/16 inches. The run for the octagon hip per foot run of common rafter is found in the same way.

$$\text{Run of hip} = \sqrt{4.97^2 + 12^2} = 12.99 \text{ inches.}$$

The total run of the octagon hip for the roof shown is  $6 \times 12.99 = 77.94$  inches = 6 feet 5-15/16 inches.

### Length of Hip Rafter

On a square-cornered building we find the length of the hip rafter by solving for the hypotenuse of the right triangle, made by the run of the hip and the rise. This can also be done on the hexagon or on the octagon roof. As an example, we will assume that the roofs shown each have a rise of 10 feet.

The length of the hip rafter for the hexagon roof will be the square root of  $(\text{run}^2 + \text{rise}^2)$ . The run of the hip for the hexagon we have found to be 83.16 inches or 6.925 feet. The length of hip, therefore, is  $\sqrt{6.925^2 + 10^2} = 12.164$  feet = 12 feet 1-15/16 inches.

The total run of the octagon hip rafter is 77.94 inches or 6.495 feet. The length of the octagon hip is equal to  $\sqrt{6.495^2 + 10^2} = 11.92$  feet = 11 feet 11-1/32 inches. The length of the octagon hip and

jack rafter may also be found by the length per foot run method, taking the length per foot run from tables.

This point and others will be taken up in our next discussion.

### Cutting the Hip Rafter

The plumb and seat cuts of a hip rafter are always obtained by taking the "Run of the hip per foot run of common rafter" on the blade and the rise per foot run on the tongue.

The roof illustrated has a total rise of 10 feet and a 6-foot run. This makes  $120 \div 6 = 20$ -inch rise per foot run.

The cut of the hip rafter for the square-cornered building then would be 17 and 20.

The cut of the hip rafter for the hexagon roof would be 13 $\frac{1}{2}$  and 20, and the cut of the octagon hip would be 13 and 20.

This article has perhaps more mathematics than is desirable, so we would call to your attention that it is not necessary to go through all this figuring every time. By remembering or noting several figures we can do most of the work of this nature. The important figures are:

For Hexagon Roof—Tangent is 6.93 inches per foot run of common rafter.

Run of Hip is 13.86 inches per foot run of common rafter.

For Octagon Roof—Tangent is 4.97 inches per foot run of common rafter.

Run of Hip is 12.98 inches per foot run of common rafter.



## Westinghouse Opens Institute

DEPICTING the application of electric light to all phases of life, commerce and industry, the Westinghouse Lighting Institute was opened in Grand Central Palace, New York City, the latter part of May. This permanent institute for the advancement of the art of modern lighting is conducted under the auspices of the Westinghouse Lamp Company.

The opening of the Institute was coincident with the opening of the convention of the National Electric Light Association in Atlantic City and the inauguration of Light's Golden Jubilee.

The mark of differentiation of this institute of applied lighting from that of an ordinary exhibit is that it is a permanent institution that will be an ever-changing demonstration of modern practices of artificial illumination.



## Sullivan Company Expands

THE Sullivan Company, Memphis, Tenn., and Montreal, Canada, manufacturer of Konset, has increased its capital stock and taken over the Paint Products Company, Cement Products Company, Bailey-Hehnen Company and the Geo. M. Tagg Paint Company, all of Memphis. The new officers of the Sullivan Company are: F. Daly Sullivan, President; D. P. Estridge, Vice-President; M. L. Wall, Secretary-Treasurer.



## Announce Partial Payment Plan

THROUGH an exclusive contractual agreement between Commercial Credit Companies and Certain-Teed Products Company, of New York City, building contractors are now offered a partial payment plan for remodeling and repair work. For as little as 10 per cent down, with 18 months to pay the balance, property owners may have their buildings re-roofed or remodeling work done under a standard, national financing plan.

# How Dan Does It

*A Department for Passing "Life Savers"  
along to other Builders*

**\$2 for an Idea**

Dan is an ingenious cuss. Nothing ever stumps him. He always knows the way out when he runs into a tough problem out on the job or in the office. Dan is editor of this Department and will pay \$2.00 each for every good idea he can use here to show and tell other builders "how to do it." Send him a rough sketch and a short description of what the tough job was and how you handled it.

Address Dan-Do-It, care of American Builder, 105 W. Adams St., Chicago, Ill.

## To Hoist Broken Nail Kegs

HALF-filled, broken nail kegs are a thorn in the side of every workman. They are hard to handle, especially for hoisting. The sketch shows the way I fasten such a keg

for hoisting which makes it easy. All that is needed for this handling is a rope. The hitch is simply an improvement on the old fashioned barrel-hitch well known to all sea-faring men. The rope is passed under the bottom of the keg and half hitches laid around the keg, three on each side. The first pair is laid a little above the bottom edge of the keg, the second pair at the middle and the last pair below the top edge. If the keg is in good condition two, or possibly even one, pair of hitches is sufficient. The lower ones being the ones omitted. If the keg is broken, this hitch will hold it firmly together and right side up while hoisting.—

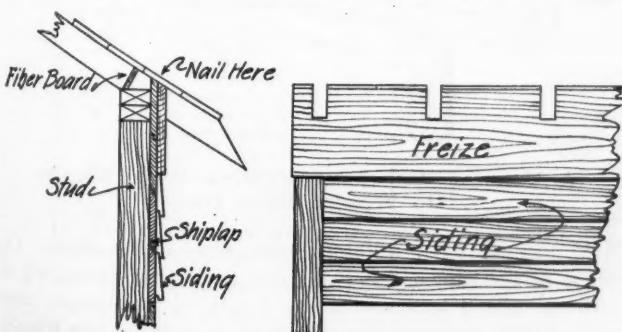


The Barrel-Hitch, for Hoisting Broken Nail Kegs.

PAUL NESS, Fort Stanton, N. M.

## Building a Tight Cornice

THE accompanying sketch shows a good way to make a tight job on an open rafter cornice. Before setting up the rafters, nail on the frieze board, which I usually make out of  $1\frac{1}{4} \times 10$  inch stock. Then lay off, on the frieze, the 16 or 24 inch centers for the rafters, and, using a block of the same dimensions as the rafters for a template, mark off



A Cornice, with the Rafters Notched Into the Frieze Board, Makes a Weather-tight Job.

and cut notches carefully so that the rafters will fit into them snugly. Put the rafters down deep enough into the notches, so that you can dress off, with a plane, the upper edge of the frieze board.

When sheathing the roof, nail the sheathing to the frieze board and you have a tight job, easily done. This is a cold place in most houses and should not be overlooked.—FRANK G. MYERS, P. O. Box 265, Fort Francis, Ont., Canada.



## Cutting Down Thresholds

THE sketch shows the way I have found easiest of cutting down thresholds. By doing it this way you are always sure of a good fit as it eliminates all guesswork. First procure a piece of straight edged board about three feet long. Place it on the floor hard against the door casings and, with a short straightedge or rule mark back from the face of the jamb and rabbet as shown at "A", being sure to hold the straightedge firmly against the jamb and rabbet cut.

Next lay the threshold against the straightedge as shown in Fig. 2 and extend the marks made on the straightedge in Fig. 1 onto the threshold. This gives all the cross cuts. Then scribe the distance for each rabbet as shown at "B" in Fig. 2. By using care in making the cross marks you will be assured of a good fit every time.

JOHN W. THOMPSON, Kennebunkport, Maine.

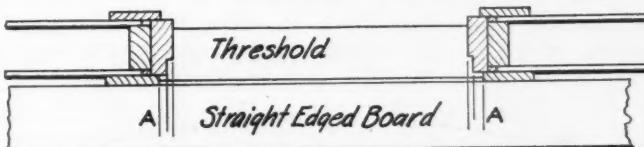


FIG. 1

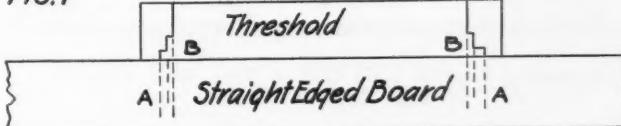


FIG. 2

Thresholds Can Be Cut to a Perfect Fit by This Method.

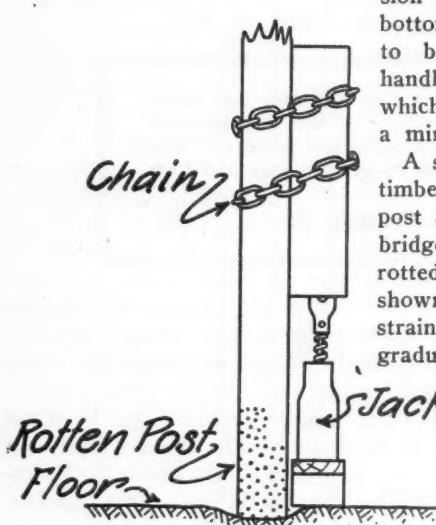


"Modern Garages" is the title of a new booklet which is being distributed by the Portland Cement Association, 33 W. Grand Ave., Chicago, to investment bankers, motor clubs, civic organizations and a selected list of architects, setting forth what has been and can be done in the handling of downtown parking space in cities.

The National Lumber Manufacturers' Association, 702 Transportation Bldg., Washington, D. C., has published a booklet under the title, "Transformation—From an Old House to a New Home," which visualizes the possibilities for re-creating typical old houses showing each of eight houses redesigned in several modern styles.

### Repairing a Rotted Post

IN an old cannery underground renovation, a 12 x 12-inch post, supporting the center of a wide span, was found to have crushed through the wood flooring, having been set directly thereon, and accumulated rain seepage in the depression had rotted it at the bottom. This, of course had to be repaired. It was handled in a simple way which reduced the labor to a minimum.



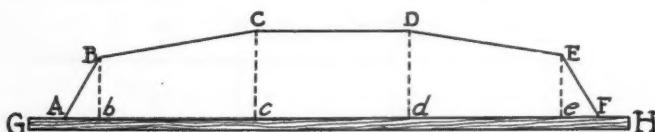
A Jack and a Piece of Chain Took the Weight of the Post During Repairs.

halved joint. A base piece was also put in under the new foot to distribute the imposed weight over a greater area of floor. The bolts were finally tightened up after removing the jack.

FRED PHEASY, 1625 Hollywood Crescent, Victoria, B. C., Canada.

### Laying Out Irregular Shelves

THE accompanying sketch shows a practical method of fitting a shelf to an irregular cupboard. The line A-B-C-D-E-F represents the line of the back of the cupboard. Instead of using a bevel square to get all these angles and lay them out, I fasten a straightedge across the front of the opening, represented by G-H. Then with an ordinary square, placed on the straightedge, I square back to the



Irregular Shelves Laid Out in This Way Will Fit Like Cabinet Work.

points B, C, D, and E, get the exact measurements from the straightedge to these points, and locate the points b, c, d and e.

These measurements can be easily and quickly transferred to the board which is to be used as the shelf and when it is cut accordingly, the shelf will fit the cupboard like cabinet work.

Another suggestion which may prove useful is in regard to the setting of nails in blind nailing flooring, several gadgets for which have been described. Why not use your nailset which is always in your pocket or tool box and save carrying around another tool. Hold the nailset by the small end, place the other end on the nail head and hit the nailset.

If anyone is still using any sort of a file for this purpose he

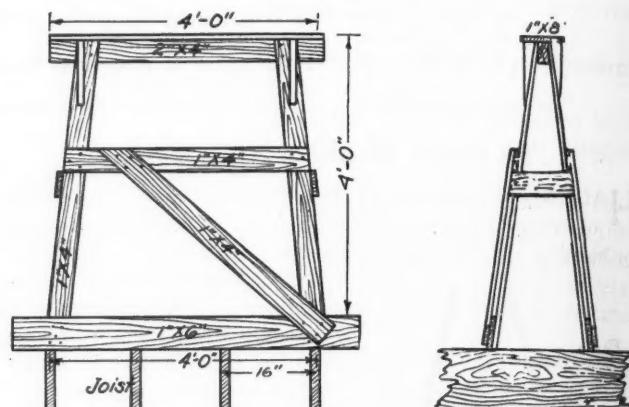
will do well to take it to a blacksmith and have it softened. Files are very hard steel and are apt to fly when pounded. I have seen two men with an eye gone as a result of hammering on a file.

C. E. STACY, Shattuckville, Mass.



### A Convenient Trestle

THE sketch shows a sliding trestle which I have found very convenient. I use it for placing second and third floor joists or rafters before the flooring is laid. In using



Upper Floor Joists and Rafters Can Be Placed with the Aid of This Trestle.

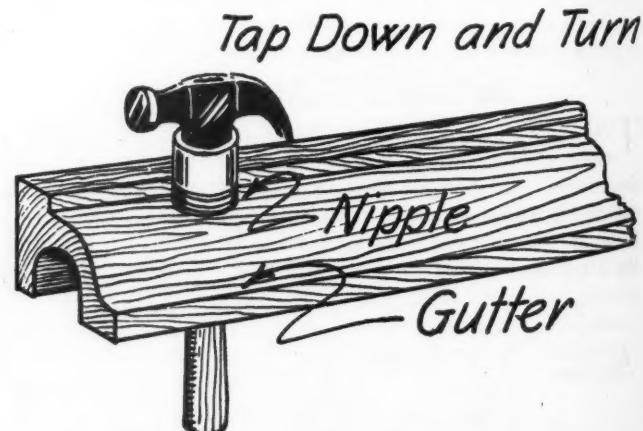
this trestle, no boards are needed on the joists. It can be moved across the joists and is always safe to work on. It can be constructed in a few minutes time and, by bracketing a wide board on the top, it needs no scaffold boards. The sketch explains its construction quite plainly.

CHAS. P. KIME, 1273 Solomon St., Johnstown, Pa.



### To Tighten Gutter Nipples

ANYONE who has had difficulty in screwing gutter nipples into a wooden eave trough because of the lack of a stillson wrench in his tool kit will find this little tip helpful. Start the thread of the nipple by hand, turning till it is tight. Then drop the hammer handle through the hole in the nipple. The square corners of the under side



Tap Down and Turn  
A Hammer Will Serve to Screw Gutter Nipples Into Wooden Eave Trough.

of the hammer head will touch the inside of the nipple. Tap the top of the hammer once or twice so that the corners dig in. With the added leverage of the length of the hammer head it is possible to screw the nipple down without any wrench.

R. H. MAYER, Hollyburn, P. O., West Vancouver, B. C.

# The noiseless, Wear-proof PULLEYS make friends for the builder



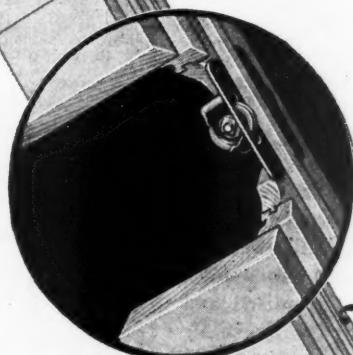
Model Home at  
Hartsdale Fells, N. Y.  
Built by Gustave Ericson

To consider the convenience and comfort of your home-owners will pay a contractor big dividends. That is why so many builders are using Andersen Frames with the patented, *guaranteed noiseless and wear-proof sash pulleys*. They are a strong selling feature in any house.

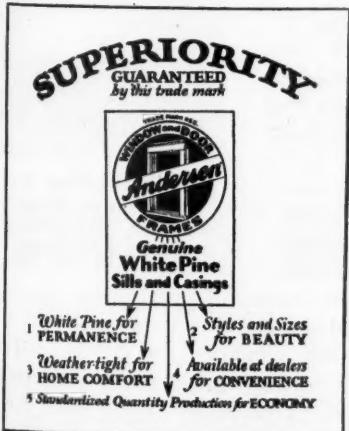
Home-owners appreciate the contractor's thoughtfulness when he insures quality even in the unseen (but vitally important) sash pulley. Freedom from the annoyance of squeaking, wobbling pulleys insures satisfaction for the home owner and commendation for the builder.

Andersen Frames have many other features which help builders to gain a reputation for good construction. These advantages are listed below.

If you want to know more about Andersen frames and where you can buy them in your locality, write us, please.



**The Andersen Patented Pulley**  
It is made of cast iron with bushing of hard, white maple, permanently saturated with a non-drying lubricant. The housing is specially designed to prevent jamming or catching of cord.



*Why* Contractors use  
Andersen FRAMES

- (1) Patented, noiseless, long wearing Andersen pulleys used exclusively.
- (2) Genuine soft White Pine sills and casings—last a life-time.
- (3) Patented, exclusive weather-tight features including groove for wide blind stop.
- (4) Absolute accuracy of milling.
- (5) A Frame up in 10 minutes.
- (6) Standardized styles and sizes, convertible for all architectural needs.
- (7) Nationally known and distributed.
- (8) Dependable because guaranteed by a reliable manufacturer.

# Andersen FRAMES

**Andersen FRAME CORPORATION., Bayport, Minn.**

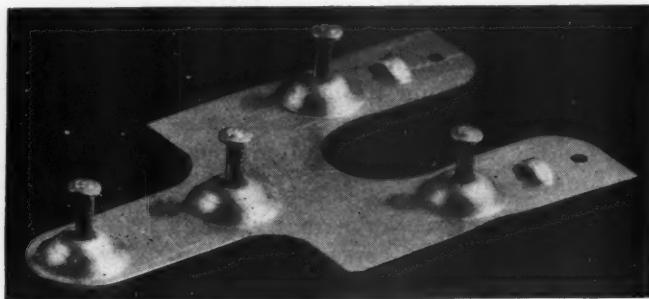
# What's New in Construction Materials

*For further information in regard to any item described in the "What's New" Departments address, American Builder Information Exchange, 105 W. Adams St., Chicago*

## New Concrete Floor Buck Anchor

ON jobs requiring door bucks set on concrete floors, the new improved buck anchor, illustrated here, will make possible easier and better work in less time. Concrete nails are securely attached to the buck anchors, already in position to be driven into the concrete floor. For nailing this anchor to a concrete floor, the nails nearest the floor buck should be started first, driving each nail partly in with a light tap of the hammer. After all have been started, they can be driven down until the heads are firmly seated.

This anchor is manufactured by a company which devised



The New Buck Anchor with Special Concrete Nails in Place Ready for Nailing to a Concrete Floor.

and developed a concrete nail that has proved highly successful and is used with the anchor. The nail is also used to fasten various kinds of metal and wooden building materials to hard concrete. It is made in lengths from  $\frac{1}{2}$  to three inches. The nail to use for hard set concrete is one equal in length to the thickness of the material used plus  $\frac{1}{2}$  inch. Concrete of less density than the average will take a nail equal in length to the thickness of the material to be nailed plus  $\frac{5}{8}$  to  $\frac{3}{4}$  of an inch.

+

## Wood Preservation Improved

SCIENTIFIC research often benefits more than the one field in which it is carried on. Contractors, builders and architects can benefit from the research work done by the Western Union Telegraph Company on wood preservation. This company's laboratory, after several years of work and the expenditure of \$200,000, has developed a zinc meta-arsenite preservative which meets the rigid requirements for the protection of telegraph poles, which are subjected to the most severe weathering conditions.

A company controlling this method of wood preservation, has licensed organizations in various parts of the country to produce treated lumber. The method of treatment is an inexpensive one and builders of wooden structures find that it permits them to use less costly materials and that this saving practically offsets the cost of treating, it is stated.

This preservative has a toxicity against wood destroying organism, including termites or white ants and the various

rot fungi, which is remarkably high. The viscosity of the treating solution is about that of water, which makes possible a deep, even penetration. Its solubility in water is something less than 20 parts in 1,000,000, or about that of limestone, which assures lifelong protection to the treated wood. It is clean, leaving the wood in its natural color, it does not leach out, it is non-hygroscopic and can be painted with any desired finish without the slightest injurious effect upon the paint, and it is non-corrosive to metals.

+

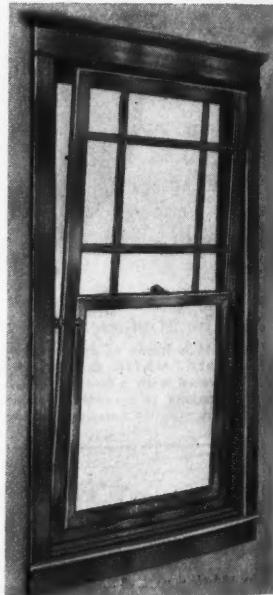
## Something New in Windows

SOMETHING really new in the way of a window that combines the advantages of the casement and the double hung window, has been placed on the market. This window is made in two models. One model both slides and swings. Only the lower half of this window slides and it can be fastened in any position making it perfectly safe to leave open at night. The entire sash swings open like a casement window. This makes it possible to clean both the inside and outside of this window from the inside, standing on the floor, and eliminates all the danger in cleaning windows.

The other model is exactly the same except that, in addition to the swinging and sliding feature, it also may be tilted in from the top. An extension lock at the middle of the frame permits ventilation from the top and sides. The lower sash is raised and the window tilted in, fresh air enters through the lower sash while the foul air passes out through the top and sides. This means a constant change of air in the room. The lock holds the window securely in position and prevents any annoyance from rattling.

These windows are sold complete, lifts, catches, hinges, weatherstrip, all that is needed to install and operate. The installation is as easy as that of any double-hung type. They do not interfere with outside screens. When closed they are weather-tight and rattle-proof by means of overlapping grooves and weatherstrips of special design.

Another feature of this window is a curtain rod device which is supplied if desired though it is not regularly furnished with the window. This device carries both the shade and the curtains or drapes and is so hinged that the whole thing may be swung entirely out of the way and out of danger of soiling when the window is washed or when it is swung open as a casement.



This Window Operates Three Ways, It Slides, It Swings, and It Tilts.



## *An attractive small brick home that sells easily*

The Hiawatha, pictured above, has met with widespread approval, because of its attractive exterior and the efficiency of the interior layout.

This is but one of the hundreds of models and plans available to you at cost, through the Common Brick Manufacturers Association.

The Hiawatha will be found in the booklet entitled, "Homes of Lasting Charm." We suggest that you send the coupon, indicating your choice.

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<input type="checkbox"/> "Skintled Brickwork" 15c.	<input type="checkbox"/> "The Heart of the Home (Fireplaces)" 25c.

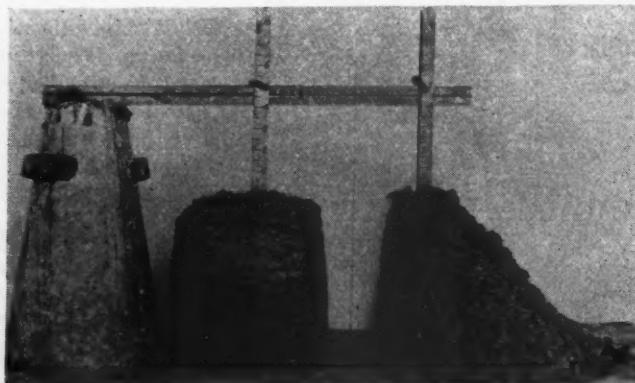
Spanish Homes" 25c.

(Enclose \$1.40 if you want all the books)

## Greater Workability for Concrete

ALL the desirable features of concrete, such as uniformity, strength, water-tightness, appearance and durability, depend to a great extent on the workability of the mixture. If a mix is not workable it is almost impossible to place it in a uniform, homogeneous mass. The true effective strength of a concrete structure depends upon the minimum, not the average, strength.

Various means have been used to secure increased workability such as using an excessive quantity of sand, but this requires more water and reduces the strength of the concrete. The use of excess cement is expensive. And so these methods have not proved satisfactory. It has been proved,



Both Specimens Are 1:2:4 Mix and Have the Same Slump, but the One at the Left Contains Diatomaceous Silica.

however, that true cohesive workability can be effectively and economically secured by the addition to the mix of a small percentage of diatomaceous silica in finely divided form.

A special grade of diatomaceous silica of exceptionally high purity and uniformity has been placed on the market under a trade name by a well known manufacturer which offers assurance of its uniform quality. This material has already been used in many large projects in the United States and other countries and is endorsed by engineers and architects.

The accompanying illustration shows one of the tests which shows the increased adhesiveness of a mix containing this material. Both specimens are 1:2:4 mixes but the one at the left contains this material. It shows far greater cohesiveness and appears richer than the plain mix at the right.



## Copper Coated with Lead

**L**EADCOATED copper, a new product, is now engaging the attention of architects and builders. Copper has always been noted for its high resistance to atmospheric attacks, but when exposed to acid fumes, salt laden air along the sea coast or to soft coal smoke in factory or mining areas, it turns black or becomes streaked and spotted. In some cases, this presents a problem to the architect because, quite often, it results in not only the copper becoming discolored, but also causes the stone work with which it is used to become stained.

Lead is almost impervious to acid, saline and sulphurous conditions and when weathered, presents to the eye a soft gray tone that is highly desirable from an architectural viewpoint. Hence the announcement of coating copper with pure lead offers a solution to one building problem.

There are several methods of applying lead to the copper but that yielding the best results in adhesion, texture and protection is the immersion or hot dipped process according to the manufacturers of this product. By using the proper



City Hall, in Pasadena, California, Roofed with Lead Coated Copper Which Will Last Indefinitely.

fluxes and temperature, the lead is fused to the copper sheet. This process also permits of the coating of gutters and spouting after forming, hermetically closing seams and leaving no raw edges uncoated.

In this material two finishes are available. The plain or smooth finish and the heavy or English cast lead finish, the latter presenting texture and tone which harmonize beautifully with stone work or for other purposes where an antique finish is desired.



## A New Type of Putty

**F**OR the carpenter, woodworker, painter or decorator a new water putty is a product which will be found useful over and over again. This material is sold in powder form, in white or natural color as specified, and mixes easily and freely with dry colors, para red, ochre, carbon black, raw or burnt sienna and burnt umber, or it can be mixed with dry aniline powders.

To use this putty, it is first necessary to remove all dirt or foreign matter from the hole or crevice to be filled, with a moist sponge. The putty is then applied firmly, smoothing with a putty knife. If the putty sets too quickly for the purposes for which it is to be used, adding a small amount of vinegar or acetic acid will correct it. Two hours after being applied, it can be painted. It provides a permanent filling that will not loosen or crumble and resists the swelling of wood. If kept well painted it will withstand the effects of the weather indefinitely.



Putty That Is Mixed with Water Is Satisfactory Permanent Filling for Cracks and Crevices.

The same company also manufactures a wood filler which can be used on either hard or soft wood for any finish to be applied. This filler is colored and will not show white in the grain of any wood. Special colored fillers are provided for dark finishes.

Another product is a floor wax, in either paste or liquid form. It is easily applied and produces a high polish protecting the finish against heel scratches.

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it  
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Safe-n-dry combines a larger quantity of asphalt, and a stronger reinforcing material (woven jute fabric) than has ever before been incorporated in a single sheet of building paper.

For this reason, Safe-n-dry renders a greater protective service than any other building paper, and for the same reason it is the first choice of those architects, contractors and builders who demand efficiency first, in the products they specify and use.

Safe-n-dry is not only “more than waterproof, weatherproof, dampproof, and rainproof,” but it is also impenetrable to wind, air, smoke, odors, frost, mildew, summer heat, winter cold, and vermin. Rats and mice dislike asphalt and will not gnaw through this heavy asphalt blanket.

Safe-n-dry bends and creases without cracking; conforms readily to odd shapes in construction; withstands any amount of abuse by man, wind or weather, without losing its waterproofing qualities.

Just try Safe-n-dry on the next job and convince yourself of its superiority. If your dealer does not sell Safe-n-dry, include his name and address in the coupon.

*Generous sample test sheets are yours on request—  
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Firm Name.....

Street..... City.....

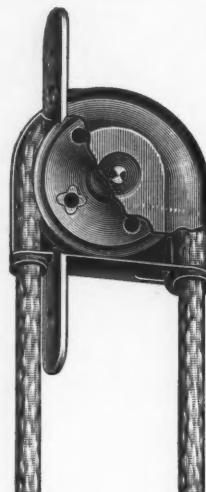
Dealer's Name.....

A. B. J. Address.....

### Enclosed Design Sash Pulley

THE sash pulley illustrated here is a completely enclosed unit which is credited with a number of distinctive features that recommend it. These features are described as follows: The cord is guided correctly over the wheel which prevents fraying and consequent replacement. The enclosed construction prevents the sash weight from wedging between the wheel and the back of the frame pocket. The sash weight cannot hit the wheel so that there is no possibility of bent wheels and the wrought steel construction eliminates breakage in installation.

The neat, sanitary, enclosed construction, leaves no opening through which dirt and water can collect and makes a finished appearing product. The tube-like construction makes the pulley easy to thread with cord without the use of a mouse. A simple mouse is provided for chain which makes it possible to thread the chain in a fraction of the time required by the "finger method." The enclosed design supplements the weatherstrips and shuts out drafts and leakage. The



Sash Pulley  
That Is Completely Enclosed Is an Improved Unit.

face plate can be completely painted over without gumming the wheel, as all working parts are enclosed. The rich, mahogany colored finish gives the pulley the appearance of a complete piece of hardware when installed. ♦

### Removable Steel Flag Poles

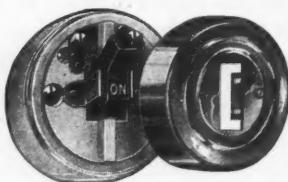
FLAG poles of steel, enameled green for attractive appearance and protection against the weather, can be set up anywhere and removed as desired. These poles are made in three parts, a three foot socket which is driven into the ground to receive the pole proper, and two sections. They are available in lengths from 12 to 24 feet. They are particularly desirable for the summer cottages where a flag pole is wanted during the summer months but need not be left up, unused but exposed to the worst weather through the winter. ♦

All Steel  
Flag Poles  
Can Be Put  
Up and Taken  
Down as De-  
sired.

### New Electric Devices

TWO new devices brought out by a leading manufacturer of electric equipment are illustrated here. The first of these is a combination switch and receptacle with a molded plate of rich lustrous brown color, a handsome border and vertical ribbed surface. The receptacle takes the attachment plug of any electric appliance while the switch controls the lights.

The other device is a surface tumbler switch with black bakelite covers which match the high polish of the indicating handles. It is described as being especially desirable for laundries, laboratories, etc., or wherever there is excessive moisture.



Switches That Afford Greater Convenience in the Control of Lights and Use of Appliances.

### Awning Type Window Improved

NEW improvements in a well known awning type steel window, which has come to be widely used in schools, hospitals, public buildings and all types of memorial structures, have been announced by the manufacturers.

The new window is considerably lighter in weight and is so constructed that opening and closing of the lower section operates the upper section also. It comes in units of two and three sections. The mechanical connection between the lower section and upper section can be disconnected to permit opening of either the upper or lower section independently of the other.

An advantage claimed for this type of window is that it eliminates the use of poles, weights, chains or other equipment. The sashes swing outward, deflecting sun-glare and draught and admitting maximum light with any required amount of ventilation.

This window partakes of the charm and architectural values of all steel windows, having the slender rails and frames which characterize this modern building product. The new design is constructed of steel channel section welded at all points, and is equipped with a special mechanism to give it flexibility of control. Proper weathering is secured through double contact and overlapping of sections all around. Cleaning of the projected sashes is a quick and simple operation, and awnings are rendered unnecessary by attaching shades directly to the sashes.

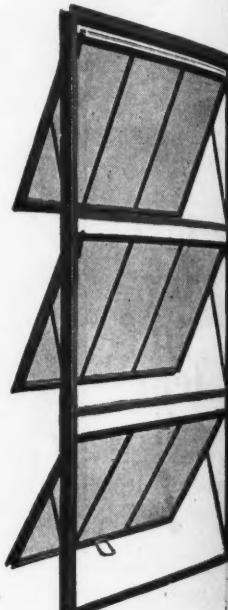
Increased production in the factory has so far reduced the price of the new awning type steel window that it is recommended as practical for use in any type of school or other large or small public building.

### A Keyless Door Lock

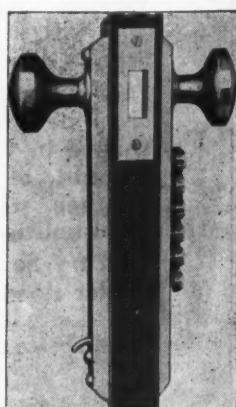
FOR apartments and offices, where tenants change frequently, this keyless lock is especially suitable because it is a simple matter to change combination for each new tenant. Thousands of combinations are possible. It is never necessary to buy a new lock. For homes, the owner can set any combination, give it to his family only and the problem of lost or forgotten keys is eliminated. You can never be locked in with this lock. It simply locks others out.

This lock is constructed of the finest materials and the parts are accurately made and carefully inspected. The door plates, door knobs, buttons, spindle and latch are made of brass. The steel parts are hardened and treated to make them rust proof. The locks are finished in the following finishes: sand blast, satin gold, oxidized copper, ivory enamel and black.

The Home Incinerator Company, Milwaukee, Wis., offers a new catalog under the title "Incinor—Industrial 'Brick-Set' Models," a new line obtained by the acquisition of the Goder organization.



Awning Type Windows for Schools and All Other Public Buildings.



This Lock Can Be Set for Any One of Thousands of Combinations at Will.

# Keep Your Purchasers SOLD

## By Keeping Them WARM!



*This attractive home development in Baldwin, Long Island is the work of Lee Associates Inc., Architects and Builders. Walls, roofs and pipes in all five houses insulated for seventy dollars per house with Cabot's Quilt. Now read the report below.*

"**M**R. BELL, the builder, told me that one of the purchasers found it almost impossible to reduce the temperature below 80 degrees on a recent cold day. This lady informed Mr. Bell that he must have installed an oversized furnace. Mr. Bell, however, informed the pur-

chaser this house was unusually warm, not because of an oversized furnace, which as a matter of fact was of normal size, but due to the fact that the walls and roof were insulated with Cabot's Quilt."

This report is like many we receive from builders of small

home developments, which are now being built in such numbers all over the country. Keep purchasers sold by keeping them warm. Comfort is what your people want most. Cabot's Quilt will keep them warm next winter, and you will save money on boilers, piping and radiators.

# Cabot's

Heat-Insulating Sound-Deadening

# Quilt

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

### COUPON

*Sam Bell*

141 MILK STREET, BOSTON, MASS.

Gentlemen: Please send me complete information on Cabot's Quilt.

Name .....

Address .....

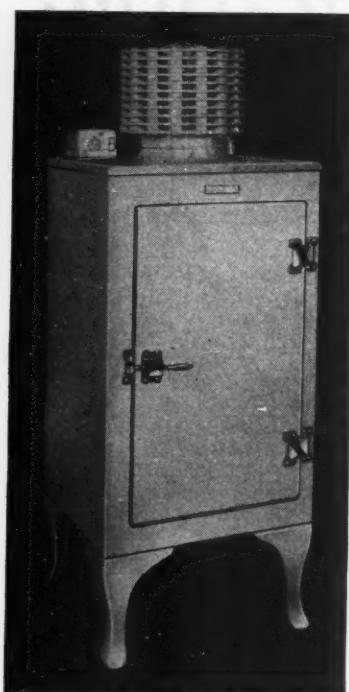
AB-7-89

### First All-Steel Electric Refrigerator

THE first all-steel refrigerator cabinet ever built has been announced. There is not a stick of wood in it anywhere and it is built like a safe. The company making the cabinet first perfected a sealed refrigeration unit, then turned its attention to cabinet construction. After many experiments, it was found practical to produce a refrigerator cabinet built entirely of steel.

The new cabinet was given a series of rigid tests. A forty-year test was given it to ascertain the life of the door, door catches and hinges. The door was slammed shut by machinery 300,000 times. The door and hardware stood up perfectly during this severe test and was still in excellent condition.

An interesting development in the cabinet door is the self-closing latch. A slight push of the arm or knee will close it tightly and it is not necessary to use the hands to make sure it is closed. This is convenient, especially if the housewife is carrying



Refrigerators Made Entirely of Steel Are Now Being Manufactured.

dishes in both hands or is in a hurry.

All the hardware is bolted into the steel body. The shelves are sturdy and will not sag. A hundred-pound weight was placed on the shelves during a test and there was absolutely no sagging. The legs are equipped with gliders to protect the floor.

Aside from the long life made possible by the construction of this refrigerator, it is unusually sanitary. The housewife will appreciate the fact that her all-steel refrigerator will never absorb food odors and that it is extremely easy to clean.

The manufacturers had to design and build special machinery to manufacture this new all-steel cabinet. By mass production, they will be able to offer this cabinet at a price easily within the reach of the average family.



### Modern Concealed Garbage Cans

THE old fashioned garbage can standing on the back porch or at the rear end of the back yard is out of place in connection with the modern home. It is unsightly and unsanitary, it draws flies and in hot weather gives off disagreeable odors. It can be replaced at moderate cost by the concealed, underground can illustrated here. This can is out of sight, sanitary, odorless and cannot be upset. Its contents will not freeze in winter or ferment in summer.



A Garbage Can That Is Underground, Sanitary and Odorless.

The complete assembly consists of a durable semi-steel top fitted onto a heavy gauge, hot-dip galvanized receptacle which contains a heavy gauge, corrugated, hot-dip galvanized garbage can. A pedal is attached to the top. Stepping on the pedal raises the cover to

receive garbage or to remove the can for emptying. The cover is self-closing and fits snugly making the container odor tight, and fly and vermin proof.

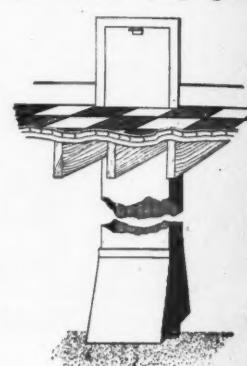
Though these cans may cost slightly more than some they are economical in the long run because of their long life. After each can is finished in the black it is hot-dipped in pure, molten zinc which knits itself into the pores of the steel and will not crack, peel or chip. It averages 4 1/4 ounces per square foot and furnishes the rust resisting quality so necessary for long life in an underground can. The installation of this garbage receiver requires only the digging of a hole of the proper size and lowering the container into the hole.



### A Convenient Dust Chute

IN either house or apartment a dust chute may be installed on a level with the floor of any room, preferably the kitchen. The floor can be swept, the sweepings gathered, with the broom, before the chute door and the door opened by placing one foot on a treadle at the top of the door. The door swings open from the bottom, being equipped with hinges and a light spring at the top, and the sweeping can be brushed into the chute. The sweepings drop through a steel shaft into a receptacle in the basement which may be removed and emptied whenever necessary.

It should be noted that the entire construction of this equipment is of steel, of a gauge heavy enough to prevent distortion in the shaft in case the dust chamber is overloaded, but light enough to avoid unwieldiness in handling. The steel construction also reduces the fire hazard and, in case of neglect to empty the dust chamber, there is no danger from spontaneous combustion.



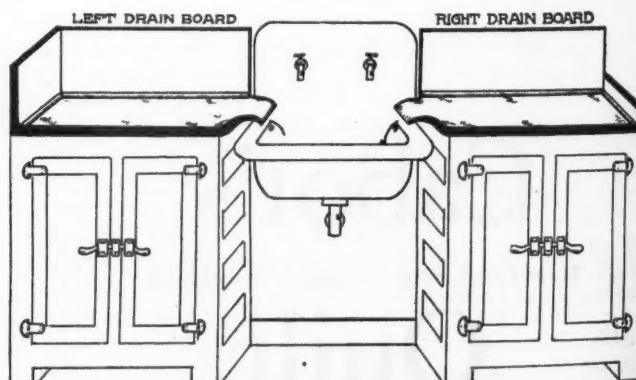
Dust Chutes of All Steel Construction Provide for Convenient Disposal of Sweepings.



### One Piece Enamelled Sink

THE illustration shows a porcelain enameled round sink top. It is made in one piece, of 16-gauge Armco iron, and can be made any size desired up to 10 feet in length.

The bowl of the sink can be placed in any position in the top, either at the ends or in the middle. The sink itself is 16 inches in diameter at the top, 14 inches in diameter at the bottom and seven and one-half inches deep. The back and ends can be made any height desired up to 16 inches.



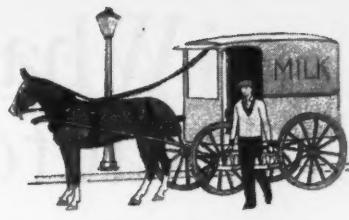
This One-Piece, Enamelled Sink Top Can Be Made to Fit the Installation.



BRONCHO BUSTER



MINER



MILKMAN



# And NOW the builder of a \$2,500,000 theatre

*Milkman! Miner! Broncho Buster!* Orel R. Heinz had been all of these, but he was still a long way from the high-salaried class. So he decided to take up Civil Engineering.

Long before he finished his home-study course with the International Correspondence Schools he received dividends in the form of better jobs. Even before he secured his diploma, he was making \$150 a month as draftsman.

What's he doing now? Well, he's a full-fledged Civil Engineer, and lately served as Superintendent of Construction of the \$2,500,000 Chinese Theatre in Hollywood.

"Knowledge is of two kinds," says Mr. Heinz,

"practical and technical. And right here is where the I.C.S. student has a great advantage. He gets his theory while he is engaged in practical work. I.C.S. training, in connection with practical experience, will put any man on top with the best of them."

Why don't you study, as Mr. Heinz did, and prepare

yourself to deserve a better position and a larger salary? You can do it if you really try.

At least make the start by marking and mailing the coupon printed below and find out what the I.C.S. can do for you. It doesn't cost you a penny to ask for full details, but that one simple little act may change your entire life.

INTERNATIONAL CORRESPONDENCE SCHOOLS, Box 8133-D, Scranton, Penna.

*"The Universal University"*

Without cost or obligation, please send me a copy of your booklet, "Who Wins and Why," and full particulars about the subject before which I have marked X in the list below:

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<input type="checkbox"/> Architectural Draftsman	<input type="checkbox"/> Practical Telephony	<input type="checkbox"/> Stenographer and Typist
<input type="checkbox"/> Architects' Blueprints	<input type="checkbox"/> Mechanical Engineer	<input type="checkbox"/> Higher Accounting
<input type="checkbox"/> Contractor and Builder	<input type="checkbox"/> Mechanical Draftsman	<input type="checkbox"/> Grade School Subjects
<input type="checkbox"/> Building Foreman	<input type="checkbox"/> Toolmaker	<input type="checkbox"/> Mathematics
<input type="checkbox"/> Concrete Builder	<input type="checkbox"/> Machine Shop Practice	<input type="checkbox"/> English
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<input type="checkbox"/> Plumbing Inspector	<input type="checkbox"/> Navigation	<input type="checkbox"/> Gas Engine Operating
<input type="checkbox"/> Foreman Plumber	<input type="checkbox"/> Salesmanship	<input type="checkbox"/> Textile Overseer or Supt.
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<input type="checkbox"/> Electric Wiring	<input type="checkbox"/> Business Correspondence	<input type="checkbox"/> French
		<input type="checkbox"/> Poultry Raising
		<input type="checkbox"/> Radio

Name..... Occupation.....

Street Address..... City..... State.....

*Persons residing in Canada should send this coupon to the International Correspondence Schools Canadian, Limited, Montreal, Canada*

# What's New in Contractors' Equipment

For further information in regard to any item described in the "What's New" Departments address, American Builder Information Exchange, 105 W. Adams St., Chicago

## A Practical Combination Saw

A SIMPLE and efficient combination saw for cut-off, ripping, mitering and rabbeting is a most useful piece of equipment for building contractors and carpenters for concrete form work and for lumber yard and small cabinet shops,



This Saw Is Light in Weight but a Sturdy and Practical Piece of Power Equipment.

inches. It is of 16 gauge sheet steel, braced on the underside to prevent deflection. All bolts are countersunk to give a smooth surface. The table is hinged and tilts to the rear to any desired depth of cut with the saw and is held in the tilted position by adjustable slides on both sides of the frame. The guides or gauges are made of angle iron and steel and give a maximum width of rip of 16 inches. A 10 inch blade projects four inches through the table. The cross-cut gauge is adjustable for mitering.

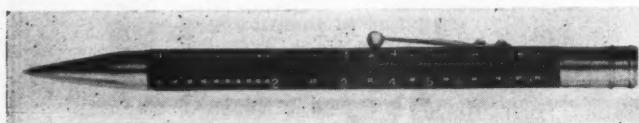
A grinding wheel can be used at the end of the arbor which projects 3½ inches beyond the table or a driving pulley can be attached if a line shaft is used. A guard for the underside of the saw blade is provided and also a ripping divider, which conforms with the laws of most states.

This machine is powered with either ½ horsepower, 110-220 volt electric motor or with a 1½ horsepower gasoline engine.



## Pencil Multiplies and Divides

ONE of the most convenient and ingenious devices, as a practical aid to the contractor, builder and architect in making mathematical calculations, is a mechanical pencil which has recently been placed on the market. It will rapidly solve any problem in multiplication or division. It is based on the slide rule principle and is simple in operation, in fact anyone can work it without a knowledge of the mathematical principles involved.



This Pencil Multiplies and Divides on the Principle of the Slide Rule.

This device has not been put out as a novelty but as a practical instrument designed to serve the business and professional man as the slide rule serves the engineer. It functions range all the way from figuring stock yields and percentages to geometrical proportions, in fact any calculation that is based on either multiplication or division. It is of real practical value in making estimates of costs, power consumption, man hours, etc. It consists of two sets of scales which slide back and forth, one over the other and, by adjusting these scales to their proper relation, the answer to the problem can be read off instantly. A descriptive pamphlet which goes with the pencil explains the many uses for which it is designed and its operation.

The body of the device is made of bakelite on which the numbers of the scales are accurately engraved. There are two models, one with the outside metal parts in gold and the other in silver. The pencil movement is of the highest quality. There is an oversize eraser and a large container for extra leads. The combination of calculator and pencil makes it possible to jot down calculations as rapidly as they are obtained.



## Light Weight Electric Drill

THIS is the day of specialization and power in industry and both are essential in the production of high grade, economical work. The portable electric drill is one of the most highly developed power tools which is contributing to efficiency in the building industry. The drill illustrated here is a light weight, ¼-inch drill, designed especially for light and intermittent work, and to sell at a very reasonable price. It weighs only four pounds.

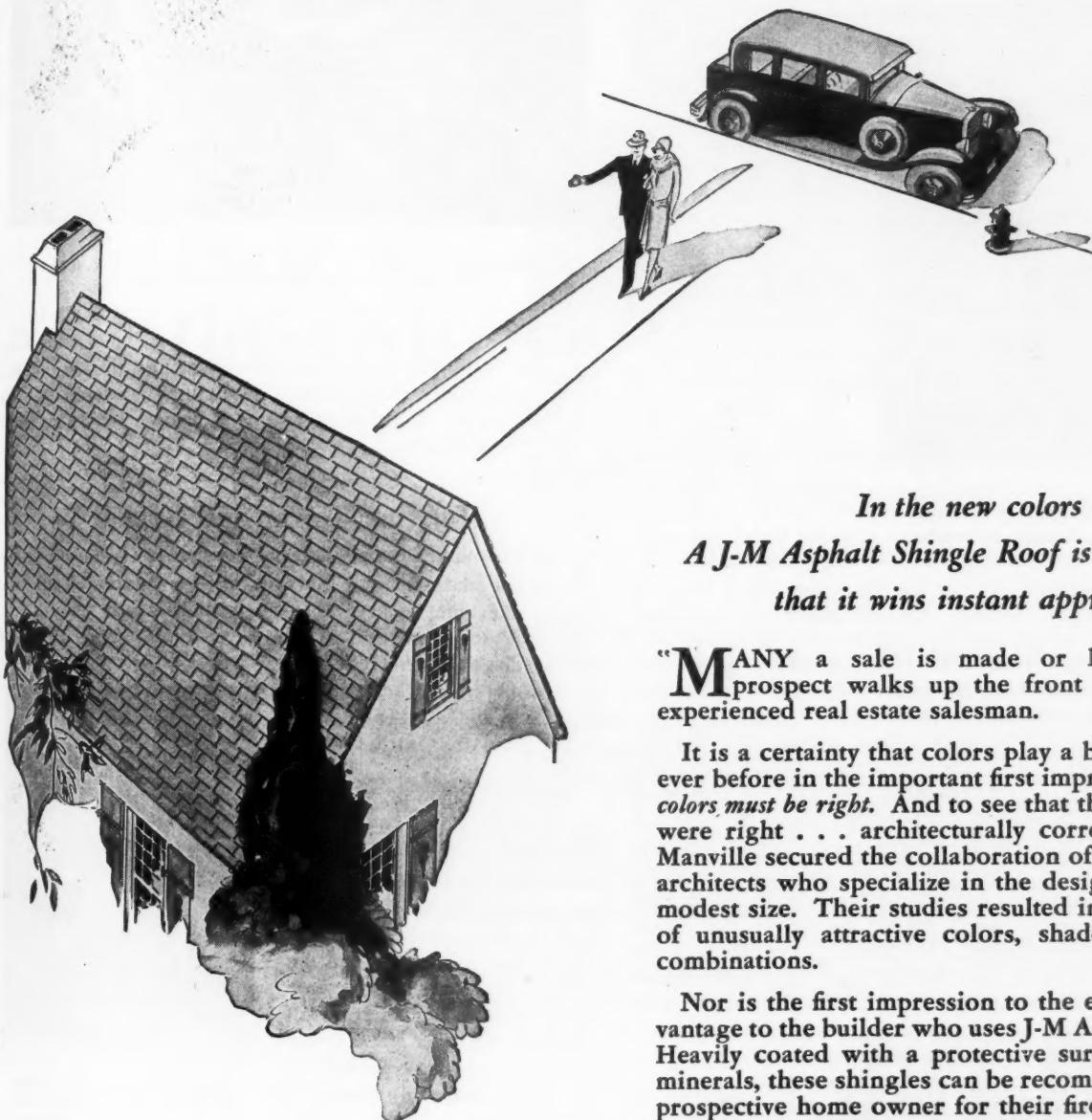


Four Pounds Is All That This Sturdy, Efficient ¼ Inch Drill Weighs.

The best materials are used in its construction and the workmanship is of the highest class. It is equipped with a Jacobs chuck and is furnished complete with 10 feet of cord. It is easily controlled by means of a switch in the handle and the motor is adapted to either direct or alternating current. It is furnished for 110 to 125 volts, 200 to 250 volts or for 32 volts. A bench clamp and arbor can be obtained for it adapting it to the use of a cloth buffer, wire cleaning brush, circular saw for cutting soft metals, grinding wheel and oscillating valve grinder.

This company also manufactures a 3/8-inch drill designed for heavy duty. It will take bits in sizes ranging all the way from 1/32 up to 3/8-inch. The motor housing is designed to eliminate heating by means of a fan which draws off all heat that may arise from constant use. The power factor is considerably in excess of that required for the maximum chuck capacity, assuring ample power at all times. The end thrust is taken up on a set of ball bearings. This tool weighs but 5½ pounds.

# "The first impression is half the sale"



*In the new colors*

*A J-M Asphalt Shingle Roof is so pleasing  
that it wins instant approval*

"**M**ANY a sale is made or lost while the prospect walks up the front path," says an experienced real estate salesman.

It is a certainty that colors play a bigger part than ever before in the important first impression. But the *colors must be right*. And to see that these new colors were right . . . architecturally correct . . . Johns-Manville secured the collaboration of a committee of architects who specialize in the design of homes of modest size. Their studies resulted in a wide variety of unusually attractive colors, shades, blends and combinations.

Nor is the first impression to the eye the only advantage to the builder who uses J-M Asphalt Shingles. Heavily coated with a protective surface of crushed minerals, these shingles can be recommended to your prospective home owner for their fire-resistant qualities and their ability to protect his home for many years.

The name Johns-Manville completes a favorable impression on the mind of your prospect. No other name in roofing has behind it anything like the established good will or present volume of advertising which supports the J-M trade-mark.

# Johns-Manville

ASPHALT SHINGLES



JOHNS-MANVILLE CORPORATION  
New York, Chicago, Cleveland, San Francisco, Toronto  
(Branches in all large cities)

I should like complete information regarding J-M Asphalt Shingles.

Name

Address

BP-47

### Measures Moisture In Lumber

THE advantages of properly seasoned lumber are well known to all who use it, but it is impossible, with present methods of seasoning, to dry all boards uniformly. There has been a need for an instrument that could sort out the slow drying stock to be redried or used for purposes that do not require the lower range of moisture content. Such an instrument has now been developed and placed on the market.



Moisture Testing, by Means of a Meter. A workman is applying the testing handle to lumber.

needles for contacting with the boards and a small lamp to indicate the moisture content. On the panel of the instrument there is mounted a meter and rheostat to control the set throughout the useful life of the battery. A selector switch is also located on the panel with a dial calibrated in percentages of moisture content.

This instrument can be used in two ways: (1) For the selection of lumber under a certain moisture content; or (2) To determine the actual moisture content of individual pieces. In order to eliminate all lumber above 10 per cent moisture content, the selector dial is turned to 10 per cent and when the handle is pressed against the boards a green light will flash in the handle if one containing more than 10 per cent is tested. In order to determine the actual moisture content of a board, the handle is pressed into the board and the selector dial turned until the light flashes in the handle. The selector dial then indicates the moisture content.



### Latest Improved Pump Equipment

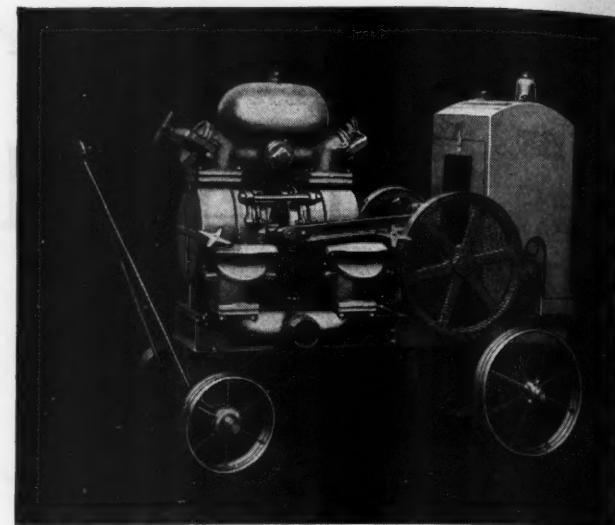
THE manufacturers of this plunger pump describe it as the latest type of improved pumping equipment. It is a non-clogging, outside packed unit that is highly compact and readily portable. This type of pump saves the annoyance of diaphragm replacement. Tests have proven its worth on all general de-watering with 200 gallons per minute capacity on the four-inch size. It is furnished in either three or four-inch size. The water can be delivered longer distances from the pump than with the ordinary diaphragm type. It is a simple and sturdy outfit.

Special construction of the waterways and the rotating rubber ball valves enable this pump to handle large quantities of solid matter without clogging. The outside packing allows the tightening of packing while the pump is operating. This means no shut-down and longer life. An air chamber in the discharge manifold relieves the strain on the hose.

The port caps can be removed with a wrench. The discharge valve parts are placed at an angle to provide easy

This instrument was designed to make accurate and rapid determination of moisture content of wood. Its operation is based on the measurement of electrical conductivity.

The meter is contained in a carrying case and is complete with batteries and testing handle. An essential part is the insulated handle attached by a flexible cable eight feet long. This handle holds



Plunger Pumps of This Type Give Long and Efficient Service Without Shut-Downs.

priming with a bucket of water. Heavy steel trucks, machine cut gears and die cast, renewable bearings, make for dependable service. This pump is supplied powered with a gasoline engine of either of two well known makes or with an electric motor.



### Hoisting Tower and Bucket

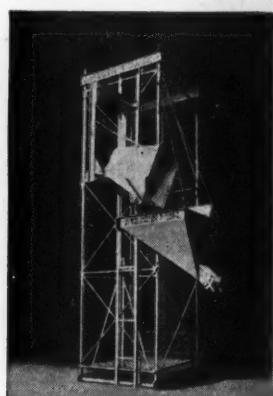
THESE tubular steel material towers can be used either with a material cage only or with a material cage and outside elevator bucket. If used with the cage only single diagonals are used, but where the elevator bucket is added double diagonals are required. This concrete bucket can be attached to any of these towers and the extra bracing added.

These towers are low in cost and easy to erect. Erection time is figured at half a man hour per foot. The smallest standard outfit consists of four sections, giving a height of 26 feet. To this can be added 16 more intermediate sections bringing the overall height to 130 feet. The tower is square in cross section so all girts, diagonal members, corner posts and cage guides are alike and interchangeable.

This makes for quicker and easier erection and a flexible piece of equipment.

With all pieces light and easy to handle, the number of loose parts kept to the minimum length of only six feet, six inches, the storage and handling on the job or in the warehouse is simplified.

The outside bucket makes possible simultaneous operation of the bucket and cage with a single tower. It eliminates the labor and time lost in taking the bucket on and off the cage and puts the mixer where it will be out of the way of cage loading operations. The bucket can be used with the tower hopper as shown in the illustration or for dumping directly into a floor hopper. Chutes can be attached to the tower hopper for concrete distribution. The material hoisting cage operates without interfering in any way with the concrete bucket.



Hoist Towers of Tubular Steel Are Adaptable to Varying Conditions.

Laure  
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2281

One of a  
THOUSAND  
all  
FENESTRA

Laurelton Homes, Inc., Laurelton, Long Island, one of the country's largest investment builders, have ordered Fenestra Casements for 1000 homes to be built in 1929.

Read what Mr. George M. Gross, President of Laurelton, Inc., says: "We are confident that the growing popularity of steel casements and the national reputation of Fenestra are advantages that will help sell our houses."

Laurelton Homes, Inc., builds a solid brick home with tile roof and all modern conveniences. Each house sells for \$7990 and they have beauty, hominess, convenience, built into them far out of proportion to this moderate cost.

Fenestra Casements not only contribute to these home advantages but, as Mr. Gross says: "They attract the passer-by—they can be easily seen from the street and bring home-buyers in where they can see every advantage these homes have to offer."

Investment builders everywhere are cashing in on the appeal that Fenestra Casements have for home owners. These beautiful windows, seen at a glance, stamp the home as modern and arouse the interest of casual prospects to other features seen only from within.

It will pay you to know the Fenestra story. 'Phone Fenestra. There'll be no obligation.

DETROIT STEEL PRODUCTS COMPANY  
2281 EAST GRAND BOULEVARD, DETROIT, MICHIGAN

Factories: Detroit, Michigan, and Oakland, California  
Convenient Warehouse Stocks



One of a thousand homes to be built in 1929 by Laurelton Homes, Inc., Laurelton, Long Island. *Architect: Arthur E. Allen.*

*Something NEW!*

Fenestra Screen Casements, the latest development in steel windows, provide screens that fit FLAT against the window frame, thus eliminating the cost of wood trim. Swing leaves may be unlocked and opened or closed and locked without touching the screens in any way. Yet they may be removed in an instant when desired. Provision is made for the attachment of brackets accommodating both glass curtains and drapes. Standard sizes reduce the cost to little, if any, more than ordinary windows. Write for details.



Easily opened without touching the screens.



Screen easily removed when desired.

**fenestra**  
casement windows

### A Kerosene Blow Torch

A BLOW torch, new in principle, design and construction, has just been announced. With this torch there is no need of pumping, priming or preheating. It is only necessary to turn the valve and light with a match to obtain an instant, blue, kerosene flame, ready for the job. In addition to the advantage of burning common kerosene, instead of the more expensive gasoline, the manufacturers state that this torch produces 30 per cent more heat with the low priced fuel than is usually produced with gasoline.



A Blow Torch of High Efficiency, Burning Kerosene, Has Been Brought Out.

and no carbon deposit to dull the efficiency of the torch. Due to its design and construction it gives a constant reliable performance regardless of weather conditions. Intense cold, stiff wind and heavy rain in no way affect its performance.

This torch is interchangeable with the paint spray unit made by this company and can be connected, in its place, on the compressor unit. In many lines of work where a spray outfit and blow torch are used on the same job, or by the same workman on various jobs, the combination set, which consists of the paint spray with compressor unit and the blow torch, forms a handy, low priced, efficient kit.



### A Saw Designed for Builders

HERE is a new saw especially designed for builders and built to stand readily operation in continuous production and, at the same time, to be readily portable. It is simple and easy to operate. When used for cut-off operations, both hands are free for handling the stock, a slight pressure on the foot pedal swings the saw through the timber, with a maxi-



Pressure on a Foot Pedal Swings the Saw Through the Timber Leaving Both Hands Free.

mum swing of 18 inches. Stock eight inches thick can be cut. For ripping the swing is locked in the desired position by the turn of a hand wheel. The lumber is then fed to the saw in the regular manner. In addition this machine also ploughs, dadoes, rabbets and grooves.

The machine is equipped with a six to 10-h.p. air cooled engine of well known make and this, combined with all steel construction, and ball bearings insures freedom from breakage, freezing, hot boxes and other annoying delays. When machining ordinary two-inch stock, the speed of production is limited only by the ability of the operator to feed the lumber. The moment the saw engages a heavy timber, the sensitive governor instantly opens the throttle releasing the full 10 h.p. or more as the load may require. No power is wasted.

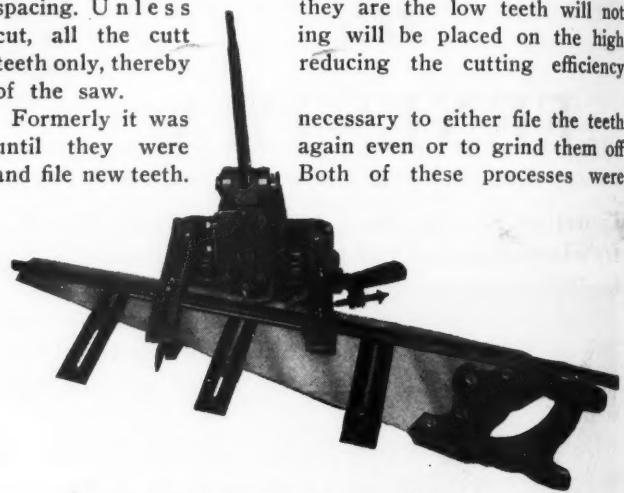
The big five-inch drive belt, with its automatic spring tension does not slip but holds the saw steadily to the correct speed. This saw is equally reliable on rough heavy cutting or on close accurate machining.



### For Retoothing Hand Saws

A GREAT deal of time and work is sometimes necessary to recondition saws that are to be filed because of broken and uneven teeth. In order that saws may be put into perfect condition all the teeth must be uniform in size, height and spacing. Unless cut, all the cutting teeth only, thereby reducing the cutting efficiency of the saw.

Formerly it was necessary to either file the teeth again even or to grind them off. Both of these processes were



New Teeth Can Be Cut on Old Hand Saws That Are in Bad Condition in a Few Minutes

slow and it was difficult for even the most expert workman to do a perfectly accurate job. Now, however, there has been perfected and placed on the market a retooth for hand saws.

This machine retooths all kinds of hand saws, quickly, accurately and at a very low cost. With it the average man can retooth a 26-inch saw in three minutes, it is stated, and it takes only four minutes to retooth a miter-box saw. It cuts 20 sizes of teeth, from four to 16 points per inch, and every tooth is cut absolutely uniform. It is easily and quickly adjusted for any hook or size of teeth. By punching new teeth right over the old ones on saws in bad condition both time and labor are saved in saw filing. After the new teeth have been cut it is only necessary to run over them lightly with the file to finish the edge.



"Business Law for Engineers," by C. Frank Allen, has been revised and a special chapter on cost plus contracts added and has been published in a third edition by the McGraw-Hill Book Company, Inc., 370 Seventh Ave., New York City. The book is in two parts; Part I, Elements of Law for Engineers; and Part II, Contract Letting. The author is both a professor of engineering and a member of the Massachusetts Bar. Price \$4.00.

# "But why," he asked, "do good buildings deserve good hardware?"

FOR years the builder had heard the phrase "Good Buildings deserve Good Hardware." Then one day he asked "Why?"

All right, Mr. Builder, we'll take your dare and tell you why. And furthermore we'll look at it from your angle and not that of the buyer who has to live with the hardware or years and years.

You are interested in costs—both of materials and labor. You can control your material costs to a cent—but how about labor? How about the expensive carpenter who spends extra time jiggling a poor lock into place? He wouldn't have that trouble with Good Hardware because it's made to fit, snugly and surely, in the minimum of time. And what is true of locks is true of other hardware items. So from the viewpoint of lower labor costs it pays to use Good Hardware. This is one reason why contracting builders handling very large developments standardize on Good Hardware—Corbin.

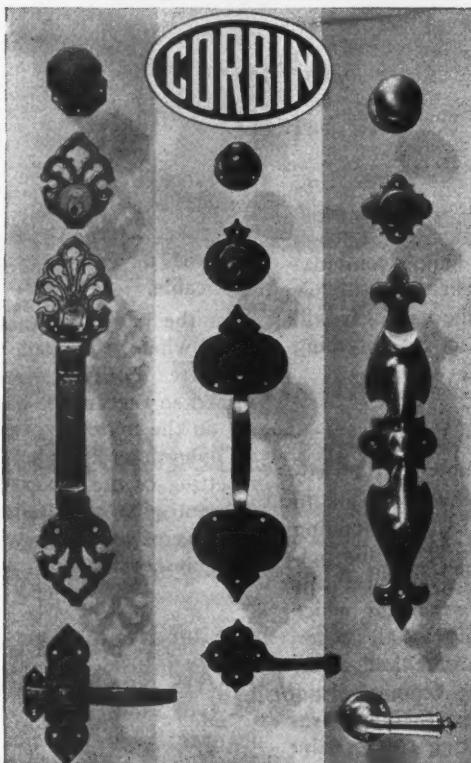
After the building is finished it must be sold. And it costs money to sell these days. So any-

thing that makes selling easier is a profitable investment. Now we don't claim that Good Hardware—Corbin—throughout a building will sell the building for you. But it will help. The prospective buyer knows the name Corbin and furthermore he knows it means just one thing—Good Hardware. His first impression of your new house is when he approaches the front door—and sees Corbin, an old acquaintance, perhaps an old friend, on guard. Buyers can't take a house apart piece by piece for inspection. Therefore, they must judge the whole building by the quality of those pieces they see and recognize. Yes, Good Hardware—Corbin helps sell houses because we see many builders' advertisements

which tell their prospects that *their* houses have Good Hardware—Corbin.

You asked "Why do good buildings deserve Good Hardware?" There are many reasons—authentic style—service—protection—long life—and lower labor costs and lower selling costs. All these—and more—are reasons why Good Buildings deserve Good Hardware—Corbin.

Good Buildings Deserve Good Hardware



P. & F. CORBIN SINCE 1849 NEW BRITAIN CONNECTICUT

New York

The American Hardware Corporation, Successor

Chicago

Philadelphia

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

### An All-Around Saw Table

A COMPANY manufacturing power sawing equipment has recently added to its line a combined cut-off and rip saw equipped with a swinging arbor and tilting table and powered with a four horsepower, hopper-cooled, gasoline engine mounted on a special spring base which eliminates the vibration set up by the operation of the engine. This permits very accurate work to be accomplished on this machine.

**Power Sawing with a Machine of This Type Makes for Economy of Time and Labor.**

easily and quickly accomplished on it. The saw blade may be clamped stationary in any position for ripping and it is easily raised or lowered to get the correct depth of cut. The tilting top makes bevel ripping and double miter cuts an easy accomplishment.

This machine is made of steel throughout. All moving parts are mounted on Timken roller bearings. The table top, also made of steel, has been treated to make it proof against rust. This machine seems to be a happy combination of a saw table which is light in weight and still has enough power to make it of real value to the user. It will handle 4 x 4 or 4 x 6 material and will also cut anything which might be used on the average job.

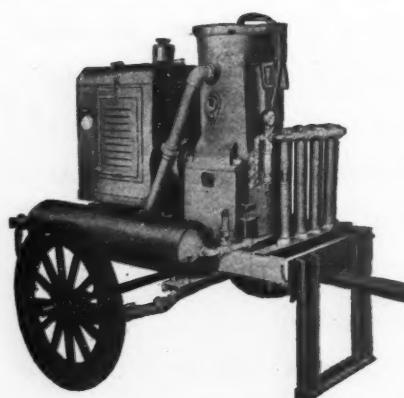


### Trailer Mounted Painting Units

HERE is a new spray painting unit mounted on a two-wheel trailer so that it is easily portable from job to job or from place to place on the job. An outstanding

feature of this outfit is a water and oil separator which removes all water, oil, dirt and moisture from the airline, thereby protecting the paint and insuring a perfect finish.

These units are available in two sizes, one powered with a six h.p. gasoline engine, the other with a 12 h.p. engine. The smaller size has a capacity of 27-30



Spray Painting Is Facilitated by These Portable Outfits.

cubic feet of free air per minute. It is equipped with a hopper-cooled, feather valve, air compressor. The engine is a two cylinder unit of standard make, radiator cooled. It is direct connected and is mounted on heavy reinforced channel iron chassis. A nine by 44 inch air tank and 32 foot water and oil separator, with all gauges and fittings are included.

The larger unit is the same throughout except in the matter of size and is equipped with a 64-foot water and oil separator. It has a capacity of 50-56 cubic feet of free air per minute. The trailers on which these units are rigidly mounted are rubber tired.

### Hoist Tower Improved

THE photograph shown here illustrates a new light type material tower. The idea of a pipe material tower is not new but the arrangement of the concrete bucket on the tower is a new and radical departure which presents new advantages.

The bucket, as will be noted from the illustration, travels on the outside of the tower on a set of separate guides and is entirely independent of the material cage. This means that the contractor with a single tower and the outside bucket attachment can now handle concrete and material at the same time. This heretofore has required a double compartment tower, greater in first cost and more expensive to assemble and erect on the job.

The bucket can be dumped at any point from top to bottom on the tower and, in addition, the bucket attachment including guides can be installed on wood towers, silos or other points where hoisting with an outside bucket is applicable.

In the past, towers of this type, where equipped with a concrete bucket, were designed so the bucket had to be set on the material cage. This meant moving it in and out as operations changed from concrete to materials, meant resetting of the mixer each time the change was made and did not give simultaneous operation of concrete and the hoisting of materials with a single tower as this new piece of equipment does.



New Type of Hoisting Tower Both Concrete and Materials Can Be Hoisted at Once.

### New Portable Swing Saw

THIS portable swing cut-off saw can be used with any type motor up to one horsepower. The regular equipment includes a one horsepower, three phase, 60 cycle motor which can be furnished for any current specified or a  $\frac{1}{2}$  or  $\frac{3}{4}$  horsepower motor if desired. The motor is hinged on a separate bracket and acts as a weight to return the swing arm to its original position after operation.

The main frame of this machine is made of cast iron, thoroughly cross-ribbed to insure rigidity. It is of the single column type which permits a full miter cut past the column to 45 degrees. The three point bearing of the base assures the rigid setting of the machine on any type of uneven bench or surface. The swing arm is a channel section casting with a swinging radius of 36 inches. It is strong and rigid with the motor mounted at the top on an independent bracket.

The full ball bearing mandrel, operating at 3,400 r. p. m., is completely enclosed and dustproof. This company does not regularly furnish any wooden table with this machine.



Completely Equipped Portable, Swing, Cut-Off Saw.



Old type columns which deteriorated rapidly and had to be replaced. Note how the joints opened.

Fluted Steel Union Metal Columns  
Design No. 246 which were used  
for replacement.

## For Old Buildings as Well as New —Union Metal Columns

THOUSANDS of old style columns are repaired every year—and thousands more must be entirely replaced. When they are replaced with Union Metal Pressed Steel Columns they may be forgotten as far as upkeep is concerned.

Union Metal Columns are fabricated from enduring steel. They can't rot. They can't split or open at the joints. And due to their manufacture from copper-bearing galvanized steel and their coating of metalastic paint, they resist rust.

Either on new buildings or in remodeling, an installation of Union Metal Columns insures you a lifetime of service with no upkeep costs other than a coat of paint at long intervals.

Moreover, these columns are low in initial cost and can be quickly and economically installed. Any building that is worthy of columns is worthy of good columns. Write today for the Union Metal story.

### THE UNION METAL MANUFACTURING CO.

*General Offices and Factory, Canton, Ohio*

*Sales Offices—New York, Chicago, Philadelphia, Cleveland,  
Boston, Los Angeles, San Francisco, Seattle, Dallas, Atlanta.*

*Representatives throughout the United States*

*Union Metal  
Design No. 246,  
True Roman  
Doric Column.  
This is one of ten  
classical designs  
made in heights  
from 5 feet to 35  
feet and in  
diameters from  
8 inches to 42  
inches.*

# UNION METAL COLUMNS

*"THEY LAST A LIFETIME"*

# News of the Field

## Convention and Show Dates

Sept. 30-Oct. 4, 1929...National Safety Council, Annual Safety Congress, Stevens Hotel, Chicago.

Oct. 14-15, 1929.....American Gas Association, Eleventh Annual Convention, Municipal Auditorium, Atlantic City, N. J.

Jan. 11-18, 1930.....American Road Builders' Association, Annual Convention and Road Show, Atlantic City, N. J.



## Will Head Ryerson Company

EDWARD L. RYERSON, JR., has been elected President of Joseph T. Ryerson and Son, Inc., succeeding Joseph T. Ryerson, who will remain a member of the board and continue to hold the office of treasurer. The new president has had 20 years' experience in the operating and marketing divisions of the business and brings a wealth of practical experience to his new office. He was graduated from Sheffield Scientific School (of Yale) in 1908, and later attended the Massachusetts Institute of Technology.

Coming to the Ryerson Company in 1909, he began in the plant operating department and held the position of works manager for several years prior to the war. Mr. Ryerson entered the service early in the war with the Aircraft Production Board in Washington, and was later a captain in the Air Service Division of the Signal Corps. He was elected Vice-President of the Ryerson Company in 1922, and Vice-President and General Manager in 1928.



## Door Merger Announced

ANNOUNCEMENT has recently been made by The Wheeler, Osgood Company, Tacoma, Wash., of the consolidation of the Nicolai Door Manufacturing Company, Portland, Ore., with its organization. The Wheeler, Osgood Company now owns and operates two complete door factories, two veneer plants and its own sawmill. Its assets total more than \$6,000,000.

The Nicolai Door Manufacturing Company will continue to operate under its own name as a subsidiary of the Wheeler, Osgood Company. Harry T. Nicolai will continue to manage the Portland concern and also becomes a director and officer of the parent company. The officers of the Wheeler, Osgood Company now are: George J. Osgood, President; W. R. Ripley, Harry T. Nicolai and George R. Osgood, Vice-Presidents; W. C. Wheeler, Jr., Secretary; and N. O. Cruver, Treasurer.



## To Finance Re-Roofing

THROUGH the co-operation of the National Discount Corporation, of Seattle, Wash., the Red Cedar Shingle Bureau, of Seattle, has been able to develop and offer to retail lumber dealers a 10-payment plan for the financing of re-roofing with red cedar shingles. The finance company is an organization with an authorized capitalization of \$5,000,000, so that this plan is backed by ample funds.

## Personnel Announcements

W. & J. SLOANE, sole selling agents for Alexander Smith, Masland, and Barrymore rugs and carpets, and for W. & J. Sloane linoleum, has announced the appointment of Francis T. Mack as consulting engineer in charge of production of its several mills.

J. J. DONOVAN, Manager of the Apartment House Division of the General Electric Company, Schenectady, N. Y., announces that George D. Kobick and H. J. Jenkins are now associated with his department in the capacity of apartment house specialists. Mr. Kobick will assist in apartment organization work among distributors and Mr. Jenkins will devote his entire time to the development of apartment house business which is expected to be three times as great in 1929 as it was in the past year.



H. J. Jenkins,  
Newly Appointed  
Apartment House  
Specialist for the  
General Electric  
Company.

THE Aeroil Burner Company, Inc., Park Ave at 13th St., West, New York, N. Y., announces the appointment of R. S. Arthur as manager of the Midwestern Branch Office recently opened by the Aeroil Burner Co., at 176 N. Wacker Drive, Chicago.

THE Wood Conversion Company, of Cloquet, Minn., has announced the appointment of Henry E. Peterson, formerly Vice-President in charge of sales of a large Eastern building specialty manufacturing concern, as sales manager. Mr. Peterson has moved to Cloquet and taken complete charge of the distribution of the company's products including Balsam-Wool and Nu-Wood.

AT a meeting of the Board of Directors, Melvin H. Baker was elected President of the National Gypsum Company to fill the vacancy caused by the death of the former president, J. F. Haggerty. Mr. Baker has been serving as executive Vice-President of the Company.

THE Stewart Inso Board Company, St. Joseph, Mo., announces that Louis D. Reichert has joined its sales organization and will work in the St. Louis territory.

AT the annual stockholders' meeting, recently held at the home office of the Alexander Milburn Company, Mr. E. P. Boyer was elected Vice-President. Mr. Boyer became associated with the company in 1919 as its Philadelphia district manager. In May, 1926, he established the Milburn Sales Co., handling the Philadelphia territory, and later the New York and Chicago Sales. Late in 1928, Mr. Boyer was also elected Vice-President of the Milburn Sales Corp. and the Milburn Paint Spray Corp., which are the distributors for all of the products of the Alexander Milburn Company.

AN announcement made by Mr. Charles F. Abbott, executive director of the American Institute of Steel Construction, with headquarters at Dallas, Texas, states that an additional district engineer has been added to the field staff of his company. Mr. Leslie H. Dodd, of Lawrence, Kan., has been selected to fill his position.

# Has Your Competitor A Monopoly *On the Bigger Profit Work*



PERHAPS he is better informed on the latest improvements in equipment and materials for the building field. He reads AMERICAN BUILDER advertisements carefully. Every new development in his line comes under his critical inspection. The same source of information is open to you.

## Read American Builder Advertisements

By merely turning the pages of AMERICAN BUILDER the same liberal education is yours. Listed here you'll find the reliable products, the new ideas, materials, etc., which lessen labor and increase your profits.

## Will Your Profits Increase This Year?

Expanded business requires new and improved production methods. One or more new machines or an improved method of estimating may solve your problem. If you are interested in any kind of building materials, contractors' equipment and machinery, power shop equipment, heating systems, plumbing supplies, water supply systems, lighting systems, elevators, school, church or theatre equipment, farm building equipment, building hardware, home conveniences or anything that is used in constructing or equipping any kind of building—we will help you get all information.

## Obtain Valuable Reference Data

Every advertiser represented in the AMERICAN BUILDER will gladly send you catalogs and circulars covering his entire line. If there is some product which you are unable to find or if there are other questions concerning the Building Field, write to us and we will co-operate in supplying information.

## Free Service to American Builder Readers

If there is some article which you want and lack the proper information regarding it, fill in the coupon below and we will gladly get it for you and co-operate in every way possible. Print or write your name plainly in the coupon below, list the articles and check your occupation.

**AMERICAN BUILDER, 105 W. Adams St., Chicago, Ill.**

A. B. 7-29

Gentlemen: Please put me in touch with manufacturers whom you know to be reliable and can furnish goods promptly. I am in the market for the following items:

Name \_\_\_\_\_

Address \_\_\_\_\_

Please check your occupation:

Building Contractor

Dealer in Building Materials

Prospective Home Builder

Architect

### Representatives Appointed

THE Porter-Cable Machine Company, Syracuse, N. Y., announces that it has appointed H. W. Petrie, Ltd., 147 Front St., West, Toronto, as its exclusive representative in the Province of Ontario, Canada, handling its "Take-About" sander, and its machinery, sander and grinder line.

THE Construction Machinery Company, Waterloo, Iowa, has recently appointed the following distributors: The R. B. George Machinery Co., Dallas, Texas. The McMillin Machinery Co., Houston, Texas. The B. P. Clark Machinery Co., San Antonio, Texas. Plains Tractor & Implement Co., Amarillo, Texas. West Texas Tractor & Machinery Co., Plainview, Texas. Golay-Kirkpatrick Tractor & Implement Co., Harlingen, Texas.

George V. Treen, 540 Monroe Bldg., Charleston, W. Va. Bournival & Company, 336-340 Notre Dame, E. Montreal, Canada.

Construction Equipment Co., 310 Dooly Block, Salt Lake City, Utah.

These firms will handle the complete line of the Construction Machinery Company, including tilting mixers, drum type mixers, builders' hoists and pumps, variable speed drag scraper power units, and power saw rigs.



### Wallace Organization Expands

J. D. WALLACE & CO., Chicago, well known manufacturers of portable woodworking machinery, has taken over the John T. Towsley Mfg. Co., of Cincinnati, Ohio, manufacturer of large woodworking machinery and factory trucks. The present Wallace sales organization and engineering service will be the basis of an expansion program which will eventually cover every standard need of the woodworking industry in modern production machinery in various price classes, it is stated. The acquisition of the John T. Towsley Mfg. Co. is another step in this expansion program. The John T. Towsley Mfg. Co. will continue to operate under its own name, as a separate corporation, a division of J. D. Wallace & Company.



### Incinor Offered in Brick Set

A N announcement from the Home Incinerator Company, Milwaukee, Wis., states that its Incinor is now available in brick set models for all garbage and waste disposal installations. Through the acquisition of Jos. Goder & Staff, Chicago, designers of special types of incinerators, the Home Incinerator Company is in a position to offer complete incinerator service.

The Incinor of the brick set type is fabricated at the factory and erected on the customer's premises under the supervision of the company's experts, in accordance with the proposal furnished by the customer. These installations are adapted to such buildings as hotels, clubs, hospitals, clinics, institutions and industrial plants.



Henry E. Peterson, Who Has Been Appointed to Take Complete Charge of the Distribution of Balsam-Wool and Nu-Wood for the Wood Conversion Company.

### Changes of Address Announced

THE Johns-Manville Corporation, 292 Madison Ave., New York City, announces the removal of its Western Division Headquarters, in Chicago, from South Michigan Ave. and 18th St., to 230 N. Michigan Ave., at the corner of South Water St. The new offices, occupying larger space required by the rapid expansion of the business, are in the Carbide and Carbon Building, telephone Franklin 9500.

THE Quigley Furnace Specialties Co., manufacturer of high-temperature cements and other industrial products, has moved its main office from 26 Cortlandt St., New York City, to the new uptown industrial and business center and now occupies the entire eighth floor of the Lakner Building at 56 W. 45th St., for its headquarters and research laboratories.

THE New York City offices of the American Chain Company, Inc., were recently moved from the Grand Central Terminal Building to the New York Central Building, 230 Park Ave. The Pittsburgh offices of the same company are also moved to 701-705 American Bank Building, Pittsburgh, Pa.

A N announcement from the American Institute of Steel Construction, Inc., formerly located at 285 Madison Ave., New York City, states that, effective April 1, 1929, its executive offices will be located in the International Combustion Building, 200 Madison Ave., New York, N. Y. The engineering office is at 1050 Leader Bldg., Cleveland, Ohio.



### Announce New Type Steeltex

THE National Steel Fabric Company, 3106 Union Trust Bldg., Pittsburgh, Pa., manufacturer of Steeltex plaster base, has placed on the market a new ribbed Steeltex which, this company states, is similar to the former product but incorporates several improvements designed to solve the last of the practical application problems of plaster reinforcement.



### Contest Announced

A NNOUNCEMENT has just been made of a prize contest open to contractors, lathers and plasterers everywhere. This contest is being conducted by the North Western Expanded Metal Company, 1203 Old Colony Building,

Chicago. A first prize of \$500, and other awards totaling \$1,000, are offered for the best letters of 100 words or less telling "Why I Like Knoburn, Jr., Small Mesh Steel Lath."

There is no entry fee for this contest and it is not essential that the contestant actually buy the lath. Letters must, however, be written either on a contest blank obtainable from a regular building supply or lumber dealer or on the contestant's letter-head and must be mailed on or before Monday, September 2, 1929. The letters will be judged (first) on the soundness of the reasoning, (second) on originality, (third) on neatness.



## The Truck that Earns Money Is the Truck with the *Right* Tires

Rolling tonnage is the secret of truck earnings. And to roll the tonnage at money-making speed and money-saving cost, your truck needs the *right* tires.

*Right* tires mean fewer delays—consistent hauling. *Right* tires mean lower repair bills—longer truck life—less cost per mile. *Right* tires mean Goodyear Tires.

Goodyear has specialized the making of truck tires—Heavy Duty Cushion, Super Cushion, Pneumatic Cord, Plain Solid—to provide the one *right* design and body structure for every

type of hauling and every road condition. For slow, heavy city work—for greater cushion and increased speed with complete reliability—for fast travel and long mileage on the open road—there is a Goodyear Tire accurately designed and built. There is even a difference between pneumatics for stop-and-go service on city streets and for long non-stop trips from state to state.

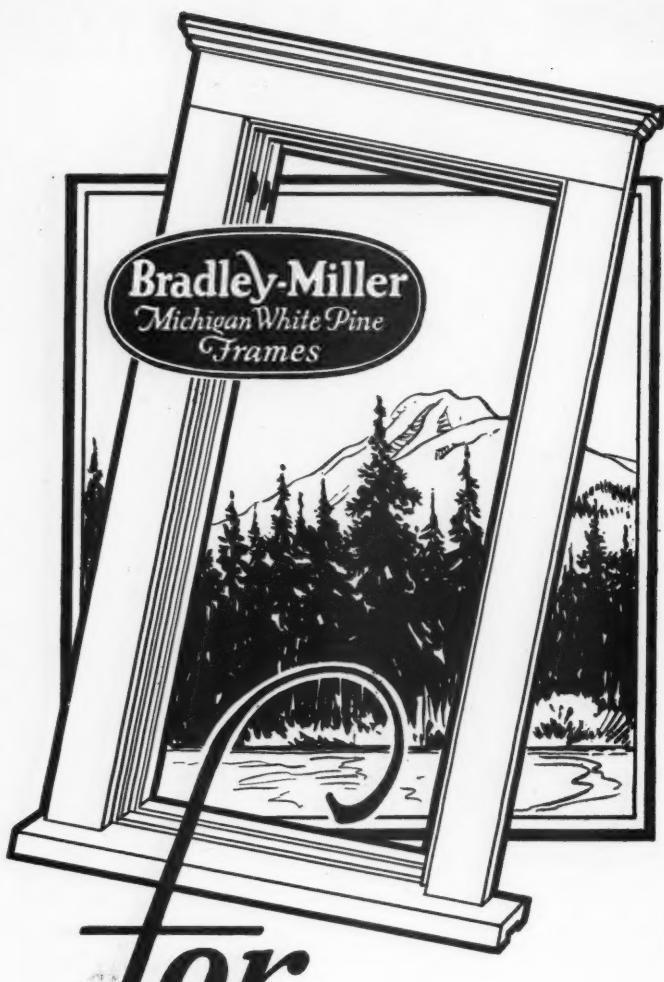
Expert Goodyear Truck Tire Dealers are at your command for consultation on the *right* type of Goodyears for each vehicle in your fleet.

*The Greatest Name In Rubber*

**GOOD YEAR**

Copyright 1929, by The Goodyear Tire & Rubber Co., Inc.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



# or EVER

Bradley-Miller Frames will last forever because all exposed parts are of that finest of all Frame woods "Michigan White Pine."

They will not warp, swell, split, shrink or rot. The windows will always run easily and the scientific design combined with the expert workmanship make them weather-tight.

Inspect them today at your Dealers. You will find them in all styles and sizes. There's one that will meet with your requirements.

Our Bradley-Miller Construction Booklet and Catalog will be mailed you free

Write us today

**BRADLEY-MILLER & CO.**  
1200 MARQUETTE STREET  
BAY CITY, MICHIGAN

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

## Books, Bulletins and Catalogs for You

THE literature and publications listed here are available to the readers of American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

The Mosaic Tile Company, Zanesville, Ohio, offers a booklet, "Mosaic Tiles in Colors," which is a very handsome presentation, in colors, of the beautiful effects produced with this company's ceramic tiles.

The T. L. Smith Company, Milwaukee, Wis., has just issued a new catalog, No. 129, describing the new Smith 14-S non-tilting mixer.

P. & F. Corbin, New Britain, Conn., has published a pamphlet, handsomely illustrated in full colors, describing a new type of color treatment for builders' hardware. This company also offers two new books, one a catalog which goes into the design and operation of its locks, the other a book of instructions for the maintenance of its locks.

The Johns-Manville Corporation, 292 Madison Ave., New York City, has published two new booklets, "Celite for Concrete," covering the application of this new product for the production of better concrete, and "The New Book of Roofs," treating the subject of the roof from the architect's viewpoint.

"Westinghouse Panelboards" is the new panelboard catalog No. 224, issued by the Westinghouse Electric & Manufacturing Company, 160 Seventh St., Brooklyn, N. Y.

The Consolidated Concrete Machinery Corp., Adrian, Mich., has undertaken the publication of a new periodical, the first issue of which was dated April, 1929. A name is to be selected from suggestions made by concrete products manufacturers and the manufacturer submitting the winning name will be awarded a new Anchor Jr. stripper.

The Curtin-Howe Corporation, 11 Park Place, New York, N. Y., has published a booklet under the title, "Zinc Meta Arsenate—A Wood Preservative," which is a technical discussion of the chemical reactions of wood destroying fungi, chemistry and toxicity data and weathering and field tests of wood treated with this preservative.

"The Fifth Ingredient" is the title of a booklet published by The Master Builders Co., 7016 Euclid Ave., Cleveland, Ohio, which treats the subject of a new ingredient for concrete developed by this company to increase the resistance of concrete to compression, tension and abrasion.

The American Wurtzilite Company, Builders Bldg., Chicago, offers an interesting pamphlet on its products, Wurtzilite paints, coatings and binders, used for the preservation of roofs, concrete, steel and other materials.

The U. S. Stoneware Co., 50 Church St., New York, N. Y., publishes a booklet, Bulletin No. 502, on its acid-proof laboratory sinks and acid-proof piping for chemistry laboratories, commercial laboratories, etc.

"The 5th Reason Why" is the title of a new broadside issued by the Cornell Wood Products Co., 307 N. Michigan Ave., Chicago, Ill., telling how Cornell Wood boards add to the quality of both new and modernized homes.

Bird & Son, Inc., East Walpole, Mass., has issued a pamphlet presenting some of the advantages of Bird's Twin Thick Butt shingles and illustrating the effect of various roof colors on one house.

"Truscon Nailer Joists" is the title of a new booklet published by the Truscon Steel Company, Youngstown, Ohio, containing complete data on the application of the new Truscon Nailer joist in light occupancy buildings.

"A New Record with Incor" is a pamphlet issued by the International Cement Corporation, 342 Madison Ave., New York City, presenting examples of time-saving made possible by the use of its product Incor portland cement.

"Commercial Lighting" is the new catalog No. 44 of the Beardslee Chandelier Mfg. Co., 216 S. Jefferson St., Chicago, illustrating lighting fixtures for stores, offices, schools and similar buildings.

# Ten Reasons for the Record-Breaking Popularity of the Six-Cylinder CHEVROLET TRUCKS

*for Economical Transportation*



In every section of the country, the new Chevrolet Six-Cylinder Trucks are sweeping ahead to one of the greatest records of success in the history of the commercial car industry—for these sensational new trucks meet, with unusual efficiency, the problems presented by crowded traffic conditions and modern ideas of prompt customer service.

They provide the remarkable flexibility, acceleration, speed and reserve power of the six-cylinder engine—with body types specifically designed for every business need. They afford outstanding economy of operation—and are actually available in the price range of the four!

Read, in the column at the right, the ten big reasons why truck users everywhere are turning to Chevrolet. Then get in touch with your Chevrolet dealer—and arrange for a trial load demonstration!

CHEVROLET MOTOR COMPANY, DETROIT, MICH.  
Division of General Motors Corporation

The Sedan \$595 The Light De-  
livery Chassis \$400 The 1½ Ton \$545 1½ Ton Chas. \$650  
Delivery... livery Chassis... Chassis... sis with Cab...  
All prices f. o. b. factory, Flint, Michigan

A SIX IN THE PRICE RANGE OF THE FOUR

**1 Six-Cylinder Power**—that carries full capacity loads up the steepest hills with abundant reserve power—plus the adaptability of a four-speed transmission, with power take-off opening on the 1½ ton truck.

**2 Six-Cylinder Speed and Acceleration**—that permit the servicing of wider areas, and the completion of more trips—whether in city service or suburban usage.

**3 Six-Cylinder Smoothness**—that protects the entire truck from the destructive effects of undue vibration and affords exceptional comfort to the driver even on the longest trips.

**4 Remarkable Handling Ease**—that results from a full ball bearing steering mechanism; big, non-locking four-wheel brakes; and a remarkably smooth transmission.

**5 Amazing Economy of Gasoline and Oil**—due to such advanced engineering features as hot-spot manifold, automatic acceleration pump and crankcase breathing system.

**6 Outstanding Dependability**—achieved by thoroughly tested construction in every unit—from the rugged rear axle to the large-capacity, highly efficient Harrison radiator.

**7 Extremely Economical Service**—provided by 10,000 Authorized Chevrolet Service Stations, operating under a low flat-rate system of charges.

**8 Ample Capacity**—made possible by a heavy channel steel frame, with sufficient frame length to permit the mounting of unusually large bodies without extensions.

**9 Wide Selection of Body Types**—that make Chevrolet Trucks adaptable to every line of business. And among them is one designed especially for your requirements.

**10 Amazing Low Prices**—that make Chevrolet Trucks the biggest values ever offered—combined with the lowest available financing charges for those who desire to buy on easy terms.

## Books, Bulletins and Catalogs for You

THE literature and publications listed here are available to the readers of American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

"Water Services That Serve," is a new booklet just issued by the Copper & Brass Research Assn., 25 Broadway, New York, N. Y. This booklet gives general data on copper and brass tubing and pipe with special reference to copper for use in service pipe between water mains and house lines.

A "Building Estimators' Data Book," by Charles F. Dingman, architectural engineer, and author of a number of books on allied subjects, has been published by the McGraw-Hill Book Company, Inc., 370 Seventh Ave., New York City. It is a handy, pocket size and contains all necessary estimating data in a condensed and tabulated form for convenient reference. Price, \$2.50.

"Floodlighting" is the title of a most interesting book, published by the engineering department of the Pittsburgh Reflector Co., 304 Ross St., Pittsburgh, Pa., and listed as Bulletin No. 1, treating of the subject of "Night Illumination of Building Exteriors, Monuments, Fountains, Signs, Construction Areas, Recreation Areas, Railway Classification Yards, Airports."

The Truscon Steel Company, Youngstown, Ohio, has published two new booklets, "Truscon Projected Steel Windows" and "Truscon Continuous Steel Windows and Mechanical Operators," in connection with the issuing of a new price list.

The National Lumber Manufacturers' Association, Washington, D. C., has recently published, under the title "Mod-

ern Home Interiors," a most attractive and valuable booklet containing a collection of original interior designs showing the modern application of wood for built-in furnishings and paneling.

The Portland Cement Association, 33 W. Grand Ave., Chicago, Ill., has published a book, "Design and Control of Concrete Mixtures," which deals with a simple, practical method of producing concrete of definite quality to meet a wide range of requirements.

"Building in the Electrical Age" is a well illustrated book published by the Westinghouse Electric & Mfg. Co., E. Pittsburgh, Penna., on the subject of Westinghouse equipment.

The National Regulator Co., Chicago, Illinois, has published two booklets on its National Metaphram damper regulators for low pressure heating boilers and National Type F Metaphram damper regulator for hot water boilers and domestic water heaters.

The Wagner Electric Corporation, St. Louis, Missouri, has issued a new 12-page pamphlet on "Transformer Performance," a discussion of the losses which occur in distribution and power transformers.

"Looking Ahead Twenty Years in Wood Utility" is the title of a book published by the Grasselli Chemical Co., Inc., Cleveland, Ohio, which describes and illustrates zinc chloride as a standard wood preservative.

The Pencil Points Press, Inc., 419 Fourth avenue at 29th St., New York, New York, has just published three books. These are: "The Practical Requirements of Modern Buildings," by Eugene Clute. Price, \$6.00; "The Work of Cram and Ferguson," a 360 paged book priced at \$25.00; Geerling's "Metal Crafts in Architecture," a 201 page book. Price \$7.50.

## Steel Roof Trusses for All Types of Buildings

ANY type of building requiring clear open floor space is built to advantage with Massillon Steel Roof Trusses. The theatre, garage, school gymnasium or assembly hall, airplane hangar and warehouse are typical examples.

These standardized trusses are shop fabricated with electric arc welding in stock sizes. They are readily put in place and bolted or anchored to supports. Shorter trusses are shipped in one piece. Longer trusses are shipped in sections with spliced connections for ease in handling and erecting on the job.

Printed loading tables permit you to design with Massillon Trusses as easily as with simple beams. Shipment is prompt. Standardized production permits prices that are exceptionally low.

A simple sketch of your requirements will serve to bring you quotation and definite recommendations from our Engineering Department.

THE MACOMBER STEEL COMPANY  
909 Belden Avenue Canton, Ohio  
Massillon Products are manufactured and distributed in Canada by the Sarnia Bridge Co., Ltd., Sarnia, Ont.

# MASSILLON ROOF TRUSSES

# Will Trailers Help?

To Solve Your Transportation Problems

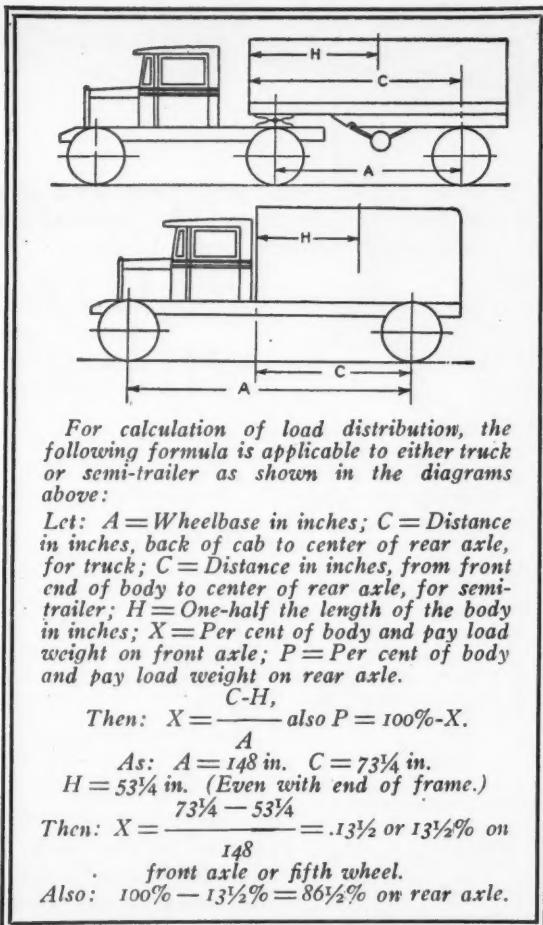
By FRED B. LAUTZENHISER  
Transportation Engineer

MUCH has been written about making the truck and its equipment fit the job for which it is intended. Capacity, gear ratio, load distribution, tires, body equipment, etc., must be carefully determined if the truck is to meet exactly the requirements. These specifications must be based on the nature of the material to be hauled, the length of the haul, the type and condition of roads, and the grades involved.

Of equal importance, preliminary to the use of trailers, is a careful analysis of each phase of the proposed operation. Possibly tractor-trucks and semi-trailers will be the answer. For other purposes trains consisting of a tractor-truck, a semi-trailer, and one or more four-wheel trailers, may serve best. To meet other conditions or requirements, longer wheelbase trucks with bodies, and pulling one, two, or three, four-wheel trailers, might be the solution.

Four-wheel trailers carry their loads equally distributed on front and rear axles; therefore, front and rear tires can be the same size. Semi-trailers, however, present a different problem in load distribution, as a greater portion of the trailer weight and its pay load is generally carried on the trailer wheels at the rear than on the fifth wheel mounted over the truck rear axle. Load distribution of semi-trailers is calculated in practically the same manner as that of a truck. (See illustration on this page.)

It is highly desirable to equalize the tire loads between trucks and trailers, especially when pneumatic tires are used, so that the same size tire can be used interchangeably throughout. This will generally mean single fronts and dual rears on the truck or tractor with duals on the semi-trailer and duals both front and rear on the four-wheel trailers. It is usually a mistake to equip the truck



with pneumatics and the trailer with solids, or vice versa, as the speed of the train is limited to approximately 20 miles per hour by the solid tires in the train.

Legislation in the various states seems to be gradually driving the solid tire from the highways and this appears to be more or less justifiable, except in special cases, not only from the standpoint of highway conservation, but from that of the truck owner's cost sheets as well.

More and more each year, state legislation is making trailer use imperative by the restrictions placed upon total weights on individual axles. At the same time some states are placing maximum dimensions on overall train lengths, which, in conjunction with the limited axle weights, makes interstate hauling a difficult problem.

The old saying that a horse can pull much more than he can carry also holds true with a motor truck. By "rule of thumb" a motor truck can carry its capacity load and pull in addition on trailers, twice its rated capacity load. Thus a one-ton

truck can transport three tons or a three-ton truck can transport nine tons. Also by "rule of thumb," one-half the rated capacity of a truck in pounds represents its approximate tractive effort or drawbar pull. But "rule of thumb" does not consider the wide range of change in drawbar pull made possible by change of axle ratio or tire size, or by the fact that one truck may be powered by a thirty-five horsepower engine while another of the same rated capacity is powered by a sixty horsepower engine.

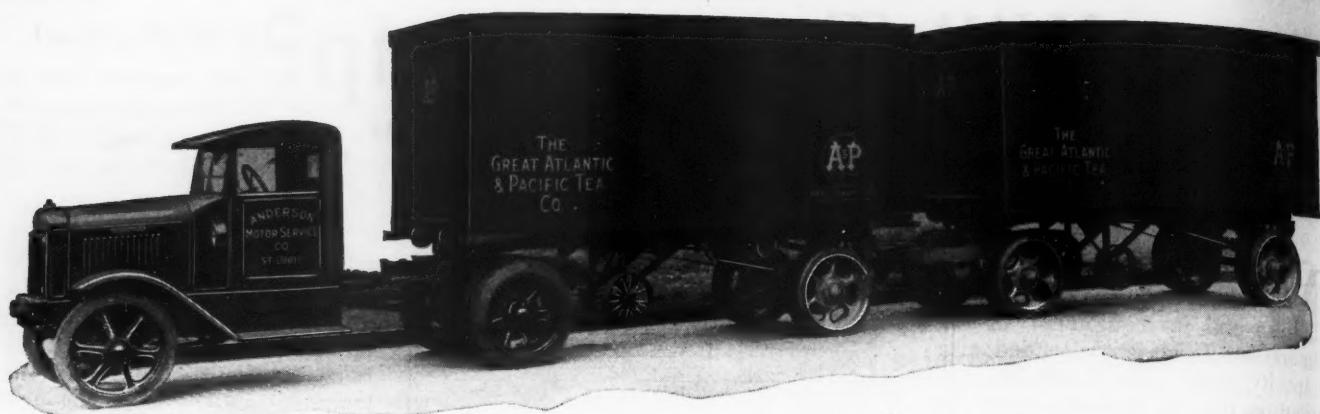
The only exact method of determining the true drawbar pull is by actual test, using a traction dynamometer. This consists of a specially built two or four-wheel

trailer provided with brakes and instruments for accurate determination of the pull exerted by the truck in moving the dynamometer.

The most accurate method of calculating tractive effort is based on the actual torque developed by the engine, taken from the



Heavy-Duty Truck with Semi-Trailer of the Low Frame Type, Especially Adapted to the Hauling of Heavy Loads



Tractor Truck, Double Reduction Drive Type, with Semi-Trailer and Four-Wheel Trailer, Owned by the Anderson Motor Service Company, of St. Louis, Designed for Maximum Load Carrying Within Legal Limits

power curve on the engine test sheet. The formula for this calculation is as follows:

Let:  $T$  = Torque in lb. ft. ( $T \times 12$  lb. inches)

$R_1$  = Transmission Reduction

$R_2$  = Rear Axle Reduction

$E$  = Mechanical Efficiency; use 90 per cent for direct and 85 per cent for other speeds

$d$  = Nominal Tire Diameter; for closer values actual diameter may be used if known

$TA$  = Tractive Effort Available

$T \times 12 \times R_1 \times R_2 \times E$

Then:  $TA = \frac{d}{2}$

As an example let us take a certain truck, with standard tires and gear ratio, and calculate the tractive effort available (TA) in first speed or low gear.

Because  $T = 224$  lb. ft. (Maximum at 1000 R.P.M.)

$R_1 = 8.98-1\}$

$R_2 = 7.85-1\}$  ( $R_1 \times R_2$  = Total Reduction)

$E = 85$  per cent (for low gear)

$d = 40$  inches

Then:  $TA = \frac{224 \times 12 \times 8.98 \times 7.85 \times .85}{20} = 8,053$  lb.

(This will be at a road speed of 1.7 miles per hour, with calculation based on engine speed of 1000 R.P.M. and total gear reduction of 70,493-1. See speed calculation formula later.)

Here is seen sufficient tractive effort to move 161 tons total weight on rubber tires and anti-friction bearings on level gravel road. (Tractive effort required for level gravel road, 50 pounds per ton of loaded truck weight.)

As stated previously, the above method is the most accurate for calculation, however, these factors are not always available. For purposes of comparison of one truck with another, or for estimation of the pulling ability of a truck in the absence of engine power curves, a formula is used which is based on the engine's piston displacement. This formula assumes that the engine will develop its maximum torque at 1,000 feet piston speed per minute, of approximately  $6\frac{3}{4}$  pound-inches per cubic inch of displacement.

Let:  $12.15 =$  A Constant Value, involving torque per cu. in. displacement, also mechanical efficiency, etc.

$D$  = Piston Displacement

$R_1$  = Transmission Reduction

$R_2$  = Rear Axle Reduction

$d$  = Nominal Tire Diameter

Then:  $TA = \frac{12.15 \times D \times R_1 \times R_2}{d}$

And inserting the values for the standard model truck previously used,

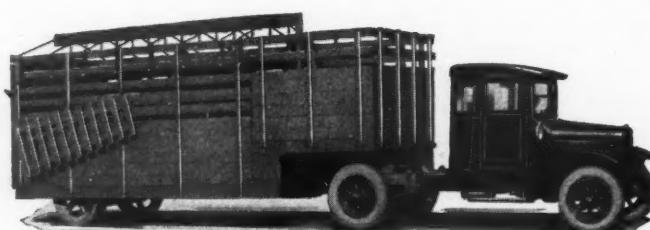
$TA = \frac{12.15 \times 390 \times 8.98 \times 7.85}{40} = 8,350$  lb.

It will be noted that this figure is greater than that obtained when using the actual torque developed, as in the first formula. However, in the higher transmission speeds, this difference decreases to a negligible value. The great advantage of the latter method of calculating tractive effort lies in the fact that the factors involved are always available for any truck.

In determining the total train weight that can be pulled by the truck, these calculations should be based on the direct transmission speed as that is the speed in which 95 per cent of the work is done on the highway. Consideration must be given to the various transmission speeds for the hard pulls through soft roads and up hills.

Tractive resistance, or the tractive effort required, must also be considered; 30 lb. for each ton of train weight, for level macadam; 50 lb. for level gravel, and 100 lb. on sand or dirt road may be considered the tractive resistance due to the type of road. For each per cent of grade

encountered, 20 lb. per ton of train weight should be added to the road resistance given above. These figures will provide a good margin of safety.

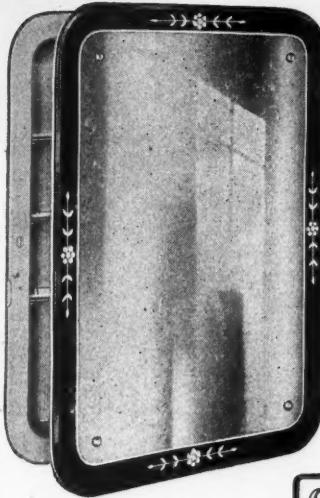


Speed Truck with a Semi-Trailer Designed to Meet Special Transportation Requirements

THE Segal Lock & Hardware Company, Inc., 55 Ferris St., Brooklyn, N. Y., has made several important changes in its sales organization due to its rapidly increasing line of builders' hardware. The former district manager of builders' hardware sales in Chicago, Mr. F. W. Busch, has been appointed sales manager in charge of builders' hardware products with headquarters at their executive offices in Brooklyn, N. Y. Mr. John A. Schwendau is now taking his place as resident manager in the Chicago office at 126 No. Clinton St.

# Improved!

New Door Catch—  
"Finger Tip Control"



BEAUTY!  
STYLE!  
PROFITS!

*in the new*

**CORCORAN**  
one piece  
Steel Bathroom  
CABINETS

LOOK FOR THIS SEAL

Corcoran Cabinets are the Original and Only One-piece Steel Cabinets. No cracks—No seams—No welded joints—No raw edges.

**N**OW! a superior feature that makes Corcoran Cabinets outstanding in their field. Just press the button and the door swings open. An improvement to a cabinet that already has won the acceptance and approval of hundreds of jobbers and dealers. See this new cabinet that meets the demand for modern bathroom equipment. Corcoran Cabinets are right—they present construction features of great importance.

Cabinet body and flange drawn from one continuous piece of steel.

Round corners inside and outside harmonize with all bathroom fixtures.

Continuous piano type brass hinge will not sag or warp.

Bulb edge glass shelves cannot slip forward.

Special pad prevents mirror breakage.

*Corcoran Cabinets are sold through Jobbers only*

**Write for Catalogue**

**The CORCORAN MFG. COMPANY**

**Cincinnati, O.**

Complete stocks are now being carried in Chicago, New York, Philadelphia and Boston; communicate with Corcoran offices at 1820 McCormick Bldg., Chicago; 1228 Locust St., Philadelphia; 11 West 42nd St., New York, and Beaudette and Graham Co., 915 Boylston St., Boston.

**CORCORAN MFG. COMPANY, Dept. AB-7**

Gentlemen:

We are interested in Corcoran One-Piece Steel Bathroom Cabinets. Kindly send catalogue and full details.

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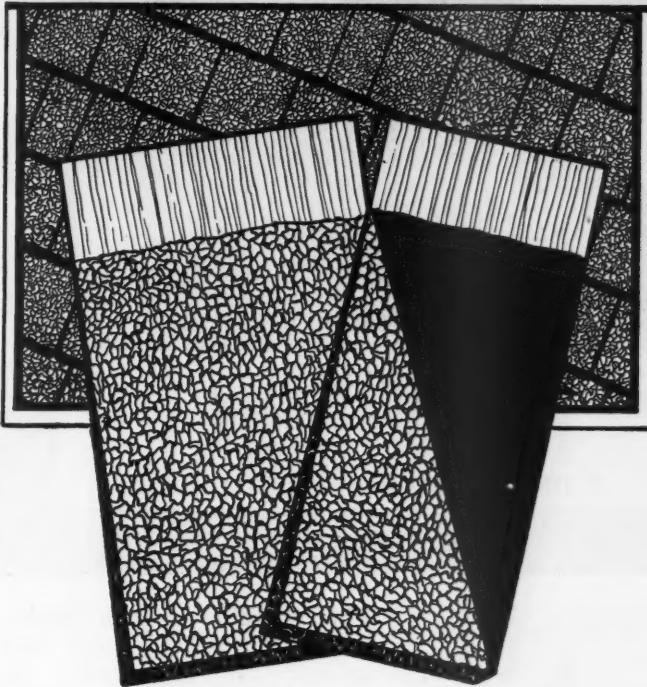
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### The Rigidity of Wood

The wood shingles used in the manufacture of Slatewood Shingles are strictly clear cedar 18" long. They are made in random widths of from four to fourteen inches.

### Waterproofing

The exposed portion of the wood shingle is coated twice on both sides and all edges with asphalt, nature's best waterproofing. This seals the exposed surface and 9 inches of the unexposed surface with the finest waterproofing obtainable.

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From the hills of Vermont, crushed granules in beautiful colors are obtained. The exposed surface is covered with these granules. Because they are natural slates they are a permanent color, very attractive and add fire-resistance, which are two of the necessary requisites for a roof.

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The thick butts of wood shingles, made heavier by a coating of asphalt and slate, give the desired shadow line effect which has long been wanted by architects, engineers and home owners.

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Just send us your Name and Address.*

*Manufactured by*

**McHENRY MILLHOUSE MFG.CO.**  
**South Bend, Indiana**

**TAKE-ABOUT Sander**  
a money-saver for contractors



Finishing butt ends of floors with the edging attachment.

This portable electric sander is daily saving time and money for contractors in many ways. It pays for itself in sanding trim, window sills, closets, bench work, etc. It is five to ten times faster than ordinary tedious hand sanding.

Equipped with the edging attachment, the SUPER TAKE-ABOUT will produce the finest possible results in finishing butt ends of floors and other hard-to-get-at places. And you'll get a perfect finish with the smooth, even belt action. Do away with ugly knife borders and make the entire floor of uniform finish.

Equipped with powerful 1 H. P. Universal Motor that propels the 4 inch wide belt at high speed. Operates from ordinary light socket.

A demonstration will convince you. Just say the word. You should also know about the Speedmatic "8," the ideal floor surfacing machine for contractors.

**THE PORTER-CABLE MACHINE CO.**  
1721 North Salina St.,  
Syracuse, N. Y.

It's easy to finish stairs, closets, nooks and corners with the SUPER TAKE-ABOUT.



Ideal for sanding framework, trim, etc.

**PORTER-CABLE**  
SANDERS

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## Steel Sash Pulleys

*"They Cost No More"*

Every builder should at least know where he can get the best—even if he doesn't use the best in the homes he builds.

Every builder will be particularly interested in K-V Steel Sash Pulleys, especially when he realizes that *they cost no more*.

K-V Sash Pulleys are made of steel, finished in rust resisting amber bronze. They are cone bearing, with *free running wheels*, electrically welded at three points. The steel is heavier gauge. They are made in styles, sizes and types to meet requirements in various parts of the country. If you haven't received a free sample, write today.

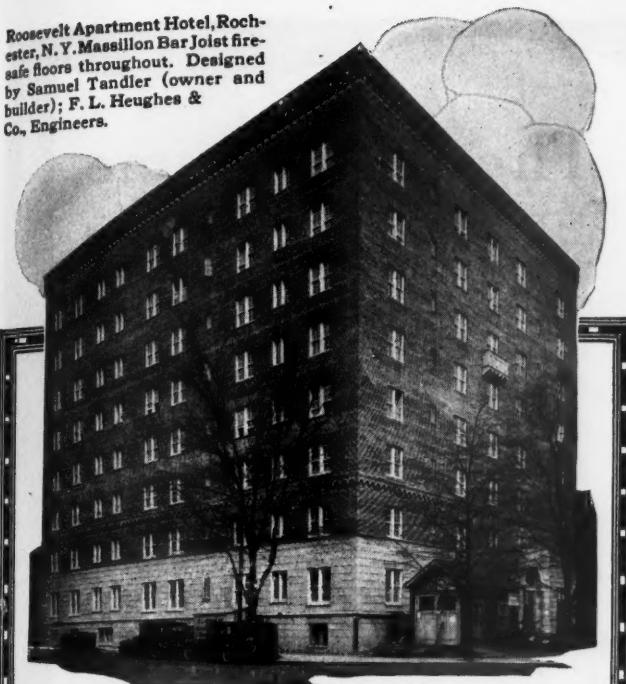
## Other K-V Products for the Builders of Homes that Sell

Every builder knows K-V Clothes Closet Fixtures. No new home is complete without properly equipped modern clothes closets. They actually help sell homes, and aid turnover. K-V adjustable Shelf Supports—adjustable every quarter inch with perfect alignment are needed wherever shelving is used. Installed without grooving side panels. Find out about this. It's a money saver.

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662 Richmond Avenue Grand Rapids, Mich.

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Roosevelt Apartment Hotel, Rochester, N. Y. Massillon Bar Joist fire-safe floors throughout. Designed by Samuel Tandler (owner and builder); F. L. Hughes & Co., Engineers.



## Fireproof Floors for All Types of Buildings

**H**OMES, garages and store buildings, like apartments, schools, hotels, hospitals—and in fact every type of building imaginable—are repeatedly built with Massillon fireproof floor and roof construction.

In every type of building, contractors welcome Massillon Bar Joists for the speed, simplicity and ease of erecting the construction. It is simply a case of "put up the joists, peg down the floor lath and pour the light concrete floor slab."

Massillon Bar Joists are made in standard stock sizes for every size and shape of floor panel. Send us a sketch or set of plans. A Massillon representative in or near your city will then tell you how much it will cost you to place this finest type of permanent fireproof floor construction in your building.

**THE MACOMBER STEEL COMPANY**  
909 Belden Ave. Canton, Ohio

Massillon Products are manufactured and distributed in Canada by the Sarnia Bridge Co., Ltd., Sarnia, Ont.

# MASSILLON BAR JOISTS

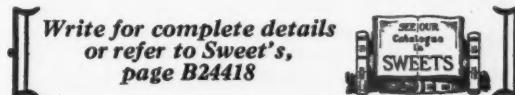
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## When This Door Closes



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"A good job!" When the owner, or buyer, or prospective tenant says that, you win. Make him say it by featuring Rixson Hardware. You can show him how the No. 10 Check brings a door quietly to rest at center without objectionable noise or vibration. The patented principles of this design assure its remarkable performance.



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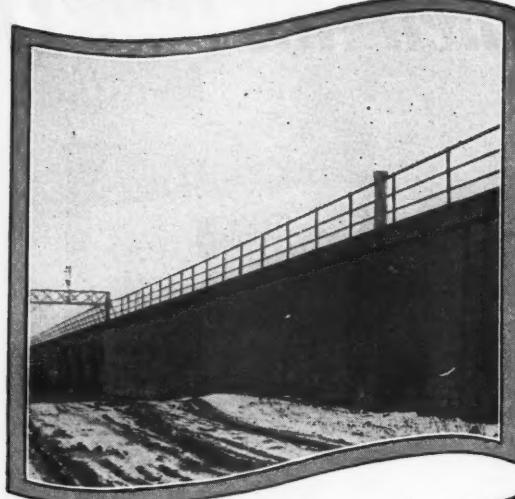
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# RIXSON

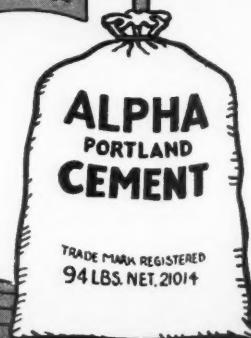
## Builders' Hardware

Overhead Door Checks  
Floor Checks, Single Acting  
Floor Checks, Double Acting  
Olive Knuckle Hinges  
Friction Hinges

Casement Operators & Hinges  
Concealed Transom Operators  
Adjustable Ball Hinges  
Butts, Pivots and Bolts  
Door Stays and Holders



Photograph taken in 1928 of Retaining Wall of C. & N. W. R. R., Ogden Avenue, Chicago, Ill.



### Alpha Portland Cement Company

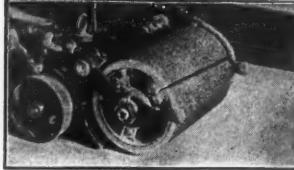
Baltimore      Battle Creek, Mich.  
 Birmingham, Ala.      Boston      Chicago  
 Easton, Pa.      Ironton, Ohio  
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use **ALPHA** cement

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MODERN construction moves fast, and the floor surfer of today has to get his job done and move out for the next man just as all other contractors do. His abrasive paper determines his success in meeting his schedule. To finish up on time he requires the fastest cutting paper; to have his job pass inspection, he must use a fine finishing paper; and to make his profit, he

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**BEHR-MANNING**  
TROY . NEW YORK





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Provide for the use of STRONACH non-splitting, sure holding NAILS.



They reduce wood splitting 70% to 90% because the triangular end cuts the wood fibers instead of wedging them apart.



The wood gets a firm grip *all around* the nail, giving Stronachs greater holding power than diamond pointed nails.



These features reduce waste of materials, save labor time, and assure better workmanship. Stronach Nails give real economy.

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NON-SPLITTING, SURE HOLDING  
*Stronach Nails*

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Buyers of homes in every “price class” now demand materials and fittings that once were considered luxurious. They judge the desirability of a house by obviously modern details of construction and equipment.

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### BAKELITE CORP. OF CANADA, LIMITED

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THE MATERIAL OF  A THOUSAND USES



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becomes a cheerful home  
when there's Wall-Tex  
on the walls**



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Wall-Tex is obtainable in many designs. There are bright gay patterns for children's rooms. There are distinctive wall coverings for dining-rooms. Somber motifs for imposing hallways and many unusual designs for bedrooms, living-rooms and formal drawing-rooms. Wall-Tex is prepared in white, dull, and glossy finishes. It acts as a splendid base for modern finishes and can be utilized for the most bizarre, as well as the most conventional, interior schemes.

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FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

# Kimball

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ELEVATORS**

A group of all purpose Kimball elevators with capacity ranging from one thousand pounds and up. Each machine is built complete, sawed, drilled and fitted at the factory and can be easily assembled by a good mechanic at point of installation.

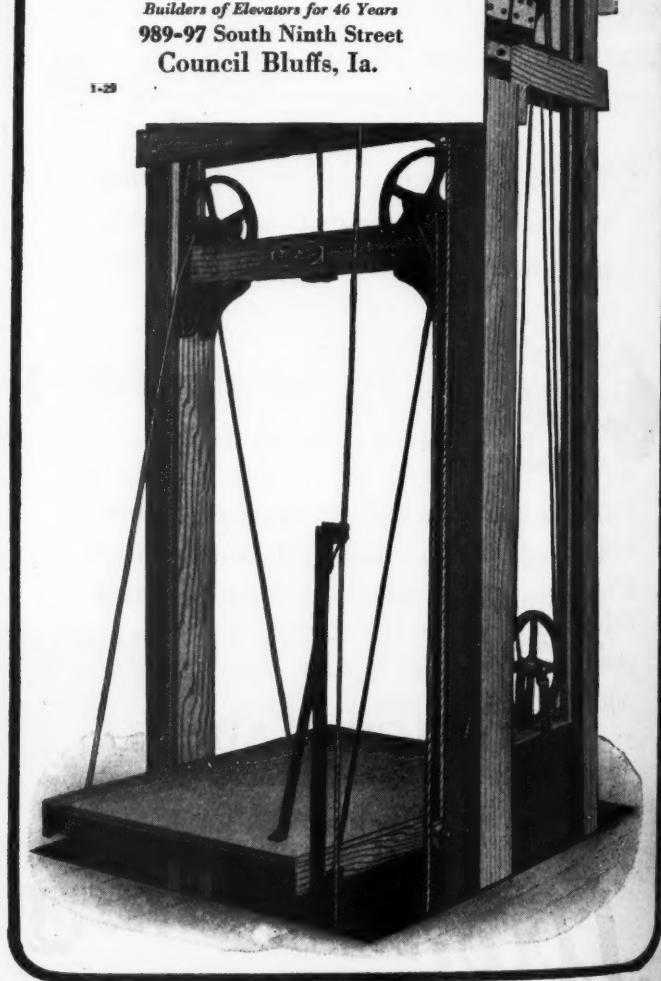
We especially recommend these inexpensive machines for mortuaries, creameries, bakeries, factories, small stores, warehouses and apartment houses. They are safe and economical to operate. . . . .

*Write for particulars on the  
Kimball Light Electric  
Elevators.*

**KIMBALL BROS. CO.**

*Builders of Elevators for 46 Years*  
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Guaranteed  
twelve months  
against struc-  
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Automatic  
safety con-  
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They will, if they are Reading Cut Shingle Nails. The life of a galvanized Reading Cut Nail is practically unlimited. Roofs in which these nails are used remain staunch, year after year—re-roofing is unnecessary until the shingles themselves weather away. And Reading Cut Nails, because of their wedge shape, have **more than twice** the holding power of ordinary wire nails!

There are many sizes and varieties of Reading Cut Nails—a type for almost every building need. We'll be glad to send you our free illustrated catalog—write for it today.

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# READING CUT NAILS

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These  
Prize Winning  
Blue Prints  
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**FREE!**

*Now...*  
**a 2¢ Stamp  
Puts You on the Road to  
9 Big Pay Jobs!**

See how amazingly easy it now is to take your choice of the biggest pay jobs in the building game! Men who can read blue prints are at a premium everywhere. And now, right at home, in your spare time, you can get the same blue print training that has shown thousands the way to . . .

**\$4,000 To \$12,000  
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Send me your free blue prints and book. It is understood that  
these are mine to keep without cost or obligation. It is also  
understood that no salesman will call on me.

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Address.....

Town..... State.....

# New LANSING 3½-T Mixer



THE NEW LANSING TRAILER MIXER 3½ T

This new mixer is equipped with Hyatt Roller Bearing wheels and can be trailed at high speed. The outfit is cushioned with wide tread cushion tires and spring shock absorbers, which means longer life for both engine and mixer. Mixing drum is extra large, accommodates full batch without slopping. Drum has four steel mixing blades, which insures quick and thorough mixing.

Being equipped throughout with Hyatt Bearings and Alemite Fittings the New 3½-T is easy running and requires little attention. Equipped with the reliable Lauson 2 H. P. engine with Wico high tension Magneto. Write for full and complete information and prices. Dept. AB.

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*Lansing, Michigan*

CHICAGO NEW YORK BOSTON MINNEAPOLIS SAN FRANCISCO PHILADELPHIA KANSAS CITY



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CONTRACTORS, alert to the growing demand for modern garages, can benefit by International Service in planning and landing profitable garage contracts. . . . When you get a garage prospect, send to International for plans and estimates. This service has helped many contractors to bigger business—and our plan department works for you absolutely free.

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—and many more listed in our Catalog!

# Washable Window Shades

make your houses easier to sell



Marimont Development, Cellarius Group House, Cincinnati, Ohio

WHEN you equip your houses with du Pont Tantine washable window shades, you have another definite selling point that will meet with favor from prospective buyers.

For Tantine window shades can be kept fresh and clean always. They are thoroughly washable. An occasional application of soap and water instantly removes all traces of dust and soil—restores their original beauty. These advantages of Tantine will mean a lot to women. Be sure to tell them that the houses they are looking at are equipped with these washable shades.

In addition to staying fresh and clean always, Tantine window shades defy wear and tear. They are impregnated with pyroxylin, the basic substance which accounts for the durability and permanent beauty of du Pont Duco. Their pyroxylin-impregnated surface resists cracking, pinholing, fraying—prevents fading in sunlight, spotting and staining in rain. It assures years of satisfactory window shade service from Tantine.

Install Tantine washable window shades in your houses now. And to assure maximum shade service, ask your dealer to mount them on the companion product—Tantine Rollers.

E. I. DU PONT DE NEMOURS & CO., Inc.,  
Newburgh, N. Y.

Canadian Distributors:

Canadian Fabrikoid Limited - New Toronto, Ontario, Can.



**TONTINE**

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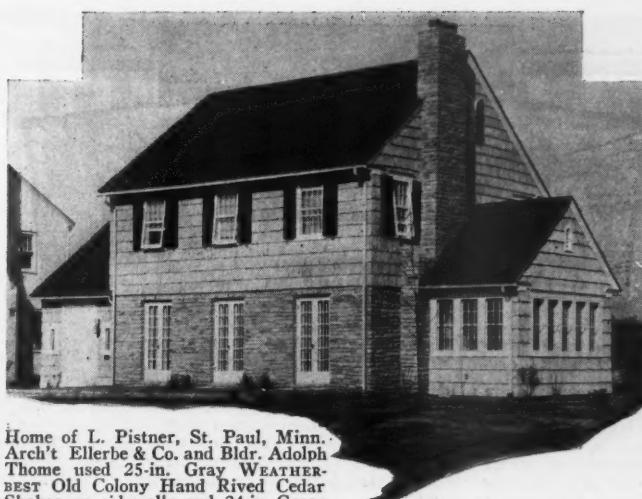
**THE WASHABLE WINDOW SHADE**

E. I. DU PONT DE NEMOURS & CO., Inc.  
Desk AB-3 Newburgh, N. Y.

Please send me sample and full information about Tantine, the washable window shade.

Name.....

Address.....



Home of L. Pistner, St. Paul, Minn. Arch't Ellerbe & Co. and Bldr. Adolph Thome used 25-in. Gray WEATHERBEST Old Colony Hand Rived Cedar Shakes on sidewalls and 24-in. Green WEATHERBEST Resawn Shakes on Roof.

THROUGHOUT the country you will find city after city where leading builders have shown decided preference for WEATHERBEST Stained Shingles. The above home in St. Paul is one of many by Adolph Thome, builder, on which he uses WEATHERBEST Stained Shingles for roofs and sidewalls.

WEATHERBEST are all 100% edge grain red cedar stained by our special process that insures more enduring colors and better values. WEATHERBEST should not be compared with process stained shingles of inferior quality. There is seventeen years' experience behind the WEATHERBEST policy "NOT TO CHEAPEN MATERIALS OR PROCESS TO MEET PRICE COMPETITION."

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**Weatherbest**  
**STAINED-SHINGLES**  
**FOR ROOFS AND SIDE-WALLS**

WEATHERBEST STAINED SHINGLE Co., Inc.,  
152 Main St., North Tonawanda, N. Y.

Send Sample Color Chart and Literature for new work.  
 Send booklet on Modernizing and Reshingling with WEATHERBEST and details of our Service to help develop a modernizing business.

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Check here if interested in the 1929 WEATHERBEST Modernizing Contest offering \$3,000 in Cash Prizes.



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### Elastic Waterproofing Compositions

Kuhls compositions are unequalled for calking around windows, pointing up terra-cotta and all other stone work, waterproofing the joints between the roof and walls, all kinds of glass construction work and tile setting, etc., in fact, any place where a watertight joint is required. These compositions adhere strongly to wood, metal, glass, concrete, etc. They never dry, crack or crumble, always remaining elastic under any conditions. Any color to match.

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Write today for prices.*

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Vertically Drawn  
FLAT GLASS



A BRAND YOU  
CAN DEPEND UPON

ADAMSTON FLAT GLASS COMPANY  
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FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

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*ready to lay*

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The ideal covering for Porch Floors, Decks or Piazzas, Sun Parlors, etc.

Waterproof  
Weatherproof  
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Lays flat  
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Established 1860



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BRILLIANT  
FIRE POLISH  
ON BOTH  
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*Selects* *Slate*  
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Again in Washington's most exclusive apartment hotel, as in every outstanding architectural work of art, "Pyramid" Brand slate has been chosen for its beauty and service. The natural charm of slate, with its recognized qualities has won for it the distinction of "outlasting the building." Three interesting and valuable volumes in standard A. I. A. size containing many chapters with detail drawings and specifications have been prepared for the creative architect. They will give you complete information on every type of installation. Write for yours today.

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Union  
out on  
speed,  
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from c  
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20" Band **Every Contractor  
Needs It**

You can save time and money with Gallmeyer and Livingston Union Woodworking machines. The work you are now turning out on bulkier, more expensive machines can be done with greater speed, and more economically with Unions.

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Featured everywhere Good Homes are built—write for details.

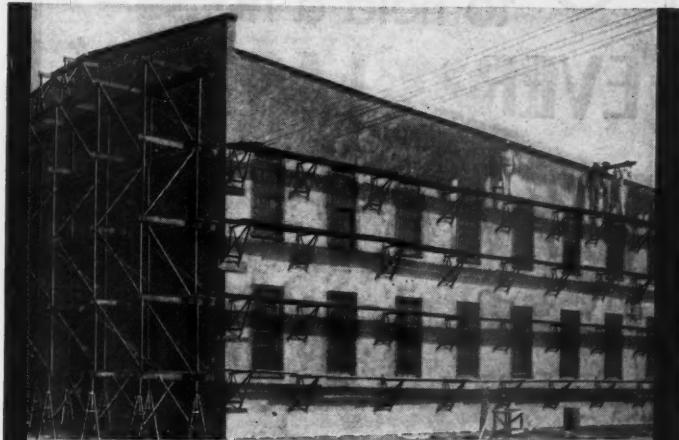
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Manufacturers also of Ventilated Closets, Urinals, Wash Sinks, Drinking Fountains and Steel Partitions for Toilet Rooms.

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write us and we will try to  
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# Trouble Savers



TROUBLE SAVER Steel Trestles form first tier of scaffolding on left side of building; sectional steel scaffolding above.  
TROUBLE SAVER Brackets on right side.

are  
**Everlasting Money Makers**

## Steel vs. lumber- and-nail Scaffolding

**Trouble Savers** save their cost on every job.

**Trouble Savers** are erected and taken down in about one-tenth of the time of wood scaffold.

**Trouble Savers** give a lifetime of use, whereas scaffold lumber soon becomes kindling.

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### That's Why They're Used ALL OVER THE WORLD

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Trouble Saver Adjustable Steel Trestles (patented).

Quickly  
adjusted  
to desired  
heights, 8  
sizes. Each  
size adjust-  
able from 4  
to 15 differ-  
ent heights,  
giving a  
range from  
16 inches to  
12 feet by  
3 inch lifts.

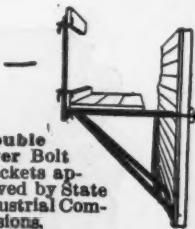
Trouble  
Saver Bolt  
Brackets ap-  
proved by State  
Industrial Com-  
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Trouble Saver  
Studding Brack-  
ets support a ton.  
Will not bend.



Trouble Saver  
Nail Attached  
Brackets support  
a ton. Held by  
four nails.



## The Steel Scaffolding Company

1101 N. Governor St., Evansville, Ind.

(Check items on which you wish particulars, fill out coupon and mail today.)

### Trouble Saver Steel Products

Studding Brackets  
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Adjustable Trestles  
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For Sale at all Leading Lumber and  
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Our offer will interest  
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Manufactured by

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Safe as the ground un-  
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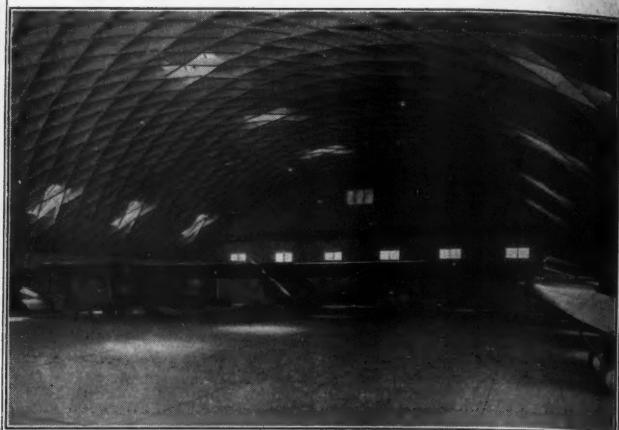
Easy to put up or take  
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Ten times faster than  
scaffolding.

Sturdy enough to last  
a lifetime.

Guaranteed to give  
satisfaction.

Lamella Roof on Clover Field Airplane Hangar  
Santa Monica, Cal., 100' x 100'.



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(PATENTED)

## Trussless ARCH ROOFS

Quickly and Economically Erected  
Thoroughly Safe—Very Attractive

Good distribution of light, excellent acoustical conditions.  
Adopted for auditoriums, dance halls, garages, warehouses,  
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COMPLETE  
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Water systems for country and suburban homes, farms and country estates—for summer cottages, hotels, camp sites, service stations, parks and golf courses—for creameries, dairies, centralized schools, colleges and sanitaria—rums—for mills, mines or factories.

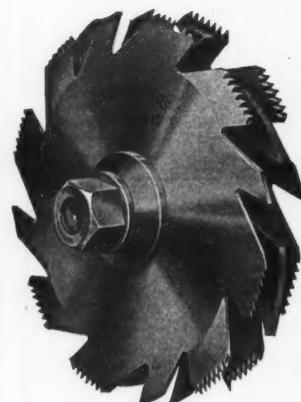
Dependable styles and sizes to fit all conditions up to ten thousand gallons of water per hour. For deep or shallow wells. Operation by hand, wind, engine or motor.

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Dado head



Developed from our  
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justable groover cuts  
either with or across the  
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*Makers of Better Saws for More than Fifty Years*

**BUY DIRECT FROM FACTORY**

**BOSS MIXERS and HOISTS**

**YOU GET SALESMAN'S & JOBBER'S PROFIT!**

**SAVE \$42 to \$384 over \$384 ON EACH MACHINE**

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**Get Our Prices** Send Coupon for New Catalogue

**With Confidential Wholesale Prices**  
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**1 YEAR GUARANTEE**

**GUARANTEE**—All BOSS equipment is guaranteed for one year against defective materials and inferior workmanship. Any parts proving defective will be replaced free of charge (electrical or engine equipment excepted, as this equipment is guaranteed by the respective engine manufacturers) upon return to us of defective parts, carrier charges prepaid for our inspection. American Cement Mach. Co., Inc.

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So confident are we that every BOSS Mixer and Hoist will give complete satisfaction, that we offer you five days' free trial. Order a BOSS. Use it in the field. If within five days you do not find it entirely as represented in every way, send for return instructions and refund of purchase price. This protects you; you can't go wrong on a BOSS. As long as we have sold on this basis, we have never had a customer demand his money. This proves BOSS quality. Every BOSS machine is backed up with an iron clad guarantee. Read it above.

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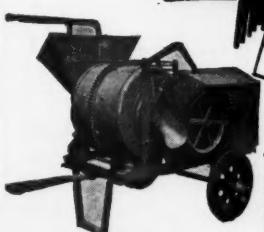
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**NEW CATALOG WITH WHOLESALE PRICES TELLS ALL**



**THE BOSS 3½'S NON TILTER**. One half bag drop hopper; 3½ cu. yds. with 2 disc wheels, cushion rubber tires, batch hopper, 2 HP 3-phase engine, magnetic steel engine housing.

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When You Get a  
**D Water System**  
You've Got Something

**D Water Systems**  
*help sell  
the homes  
you build*



HOME buyers want *dependable* running water. They want a *trouble-free* water system. These factors are just as important to them as the bathroom, the roofing, the furnace.

Specify D Water Systems on plumbing contracts. Take advantage of D values...the greatest ever offered. Use D's reputation and quality to help sell the homes you build.

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**"Buy One Machine Instead of Eight"**

Every time you buy mill work you're paying someone else a profit that you could make for yourself.

Hundreds of contractors have realized this and have equipped themselves with a **SIMPLICITY** woodworker, **one machine** that performs practically every woodworking operation the contractor has use for—28 in all.

The **SIMPLICITY** combines **eight** machines in **one**: Saw Table, Jointer, **Practical** Thickness Planer, Speed Spindle, Borer and Mortiser, Band Saw Attachment, Upright Spindle Shaper Attachment, Lathe Attachment. Does real work—not a toy. Each operation done in the usual and ordinary way. Keep your shop busy in rainy weather.

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Costs \$3.16  
Sells for \$21.00

Costs \$2.52  
Sells for \$17.00

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**TEN Days FREE Trial**

The new "Universal" is the highest development in combination Levels and Transitas. It is superior to and displaces the convertible level **FOR ANY USE OR NEED**.

No previous experience required for perfect success in operation—this is the ideal instrument for any builder or contractor. Instantly changeable to level or transit; it is the most scientific development of its kind available. Only a slight touch of the finger changes it to either need. An indispensable instrument for the up-to-date builder.

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**Latest Model—Just Out!**

**Built for GREAT SPEED and HIGHEST QUALITY of work**

No vibrations—no dust—no chains—no belts. Roller sands even with wall on either side of machine. 9" long roller 1-3/4 HP AC & DC motor.

**Write for price**

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In order to permanently preserve the beauty of this house and insure a dry interior, the stucco was hardened and waterproofed with "ANTI-HYDRO." It cannot leak, and the stucco is so hard it will never crack or chip.

In addition to its hardening and waterproofing qualities, "ANTI-HYDRO" has many other advantages. It so enriches the mixture that the mortar sticks firmly to walls and prevents sliding, so that workmen can plaster 50% more surface in the same time as when using plain cement mortar. It insures a perfect bond to tile, brick or concrete. And any tone may be obtained by adding dry mortar color. "ANTI-HYDRO" may also be used with white cement and white sand without dimming or changing the color.

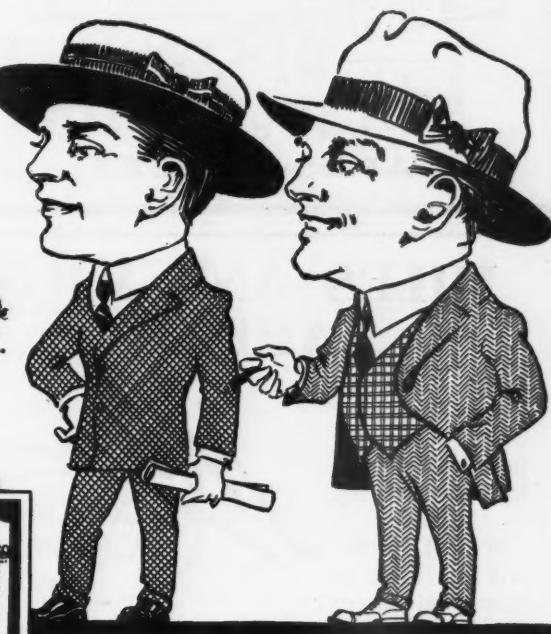
"ANTI-HYDRO" is a liquid compound and therefore easy to use. It mixes readily with the water used to wet down stucco. For 25 years it has been the outstanding concrete hardener and waterproofer. Results are guaranteed permanent. Use it on your next job.



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**The American  
Floor Surfacing Machine Co.**  
504 So. St. Clair St. Toledo, Ohio  
Branch service stations in principal cities  
Canadian Representatives  
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# \$72<sup>00</sup> in 7 hours

*Read Mr. J. H. Stevens Letter:*

*"I made \$72.00 in seven hours on one job which would have been almost two weeks work with my hand tools. I made better than \$10.00 per hour with my machine."*

### THE AMERICAN HIGH PRODUCTION SANDER

enables you to do more work, make more money and gain leadership as a floor surfacing contractor. Now is the time to make the start. Just mail the coupon—there is no obligation.

#### COUPON

American Floor Surfacing Machine Company  
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Gentlemen: Without obligation I would like to have complete information on the AMERICAN high Production Floor Sander, and how it will enable me to establish big money making business of my own.

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Address.....

City..... State.....

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YOU CAN'T BUY A BETTER FOLDING WOOD RULE



Send for Catalog of  
TAPES - RULES

Hard Enamel Finish, Brass Strike Plates, and Rust-Proof Spring Joints make these rules most serviceable. Bright Red Ends give them a very smart appearance.

THE LUFKIN RULE CO.

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From Coast to Coast, North to South, and in practically every foreign country

**MILES MACHINES**

will be found in operation where they have been giving satisfactory service for many years. And we will be pleased to refer you to satisfied customers

in your own vicinity where you can see MILES EQUIPMENT in actual operation.

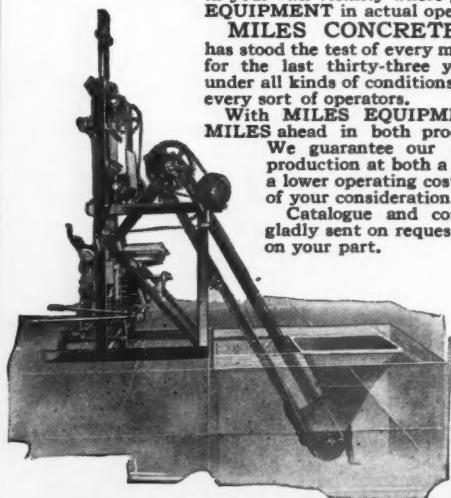
MILES CONCRETE EQUIPMENT has stood the test of every manner of hard usage for the last thirty-three years, in all climes, under all kinds of conditions, in the hands of every sort of operators.

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Catalogue and complete information gladly sent on request without obligation on your part.

Dept. 9

The  
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Manufacturing  
Company  
JACKSON, MICH.  
U. S. A.



## Cuts 4 inch Lumber - Weighs only 24 lbs Stands Up Under Heavy Work



Sawing Wood, or any hard material, from the light socket is the quickest way to cut costs and make work easy.

There are 4 Models of Wodack Saws, each of which give more cutting capacity at the price, than any other hand saws on the market.

**Model B** is the *most complete* hand saw. The 11" blade cuts up 4½ inches and *bevel cuts* up to 60°. Motor develops 1 9/10 h. p.

**Model K** is the great *little* saw. Cuts up to 2½ in. Weighs only 15 lbs. ½ h. p. G. E. Universal Motor.

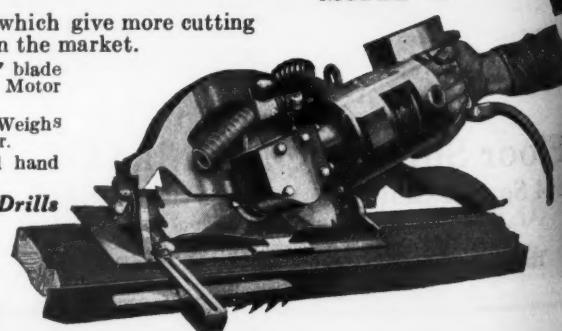
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*Also Lock Mortiser--Router--Hammer--Drills*

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MODEL "B"

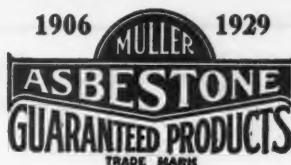


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HYGIENIC, FIREPROOF, EASY TO THE TREAD

In ASBESTONE'S many features you will find the logical answer to every flooring requirement; particularly in public buildings where traffic is most severe. In hospitals, schools, theatres, office buildings, light manufacturing plants and similar buildings, ASBESTONE is unsurpassed.

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*Manufacturers of Asbestone Flooring and Sana-bestos Tiles*

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*CUTS THE COST*

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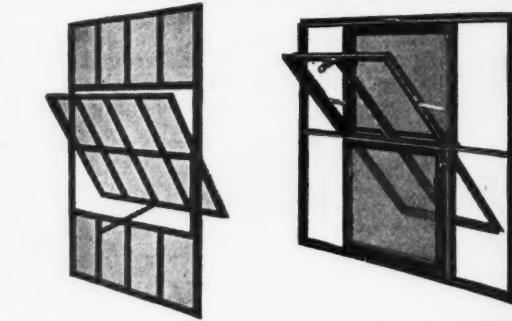
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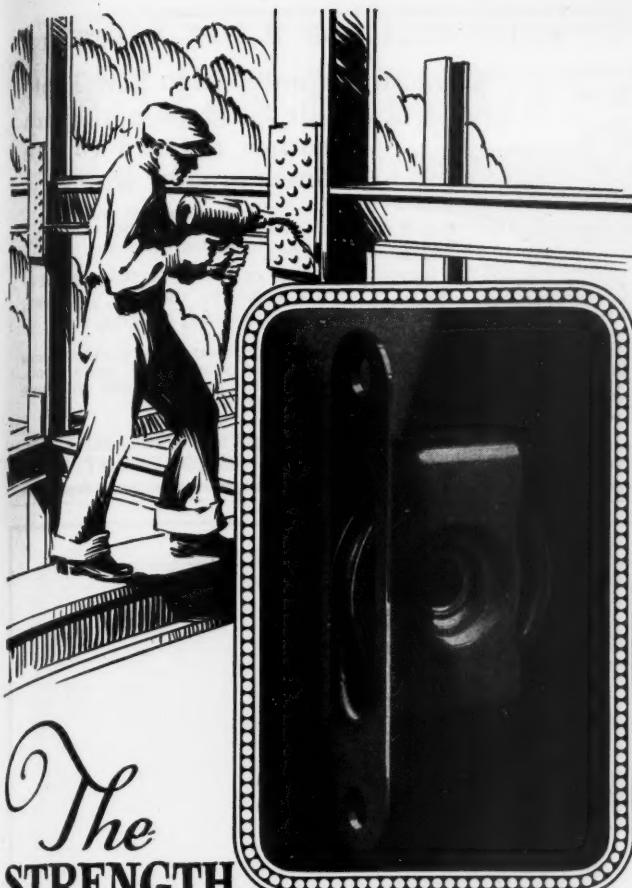
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Tumbler and Push-Button Switches for houses, offices and apartments. Every latest style and improvement; reliable quality in any price-class. Also Convenience Outlets, Warning Lights, Switch-and-Receptacle Combinations and other new Unified Wiring Devices. Write for Catalogue "T"—to see what your new jobs should have.



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 All-Steel Sash Pulleys —**

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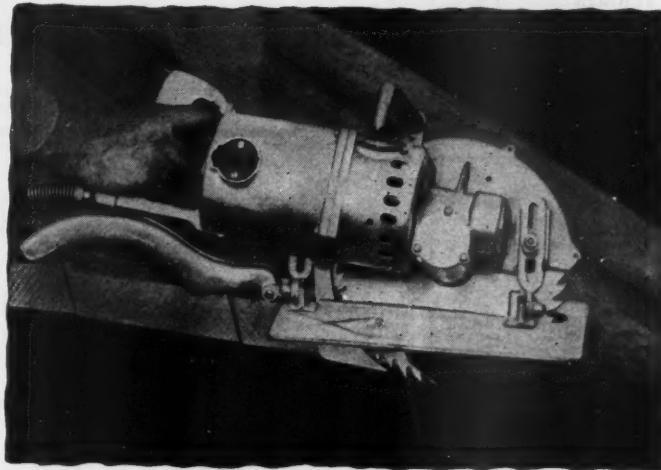
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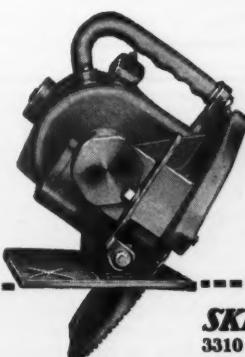
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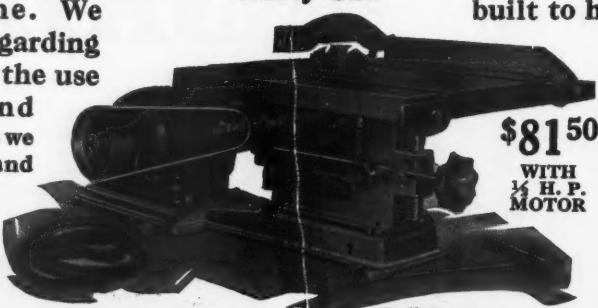
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P. S. Why not ask \$125 for your saw? It would still be a big bargain! **BECAUSE, brother, because**— we take our own medicine. We practice what we preach regarding the savings to be made by the use of machine instead of hand labor. In building our machines we use every means to reduce hand labor, and a big part of our savings are passed on to you in this remarkable machine at a low price.

**YOU TOO**  
can reduce your costs by using  
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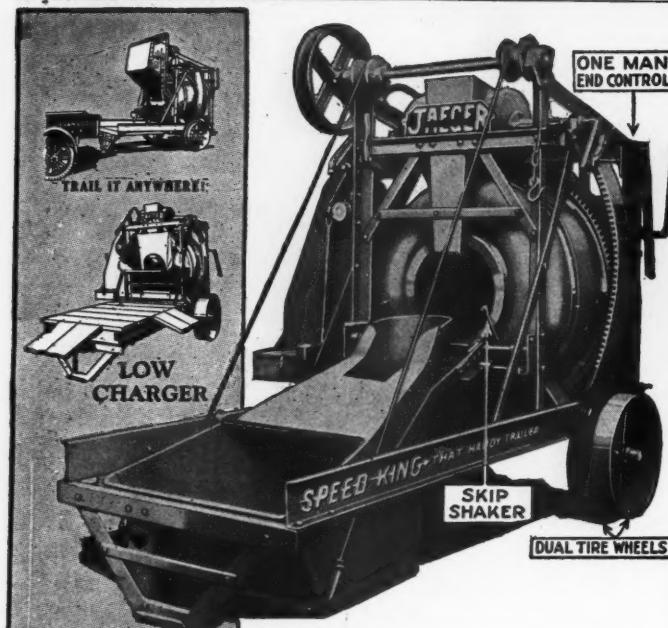
A practical combination Saw Table built to handle builders' work from rough rafters to the finest interior trim.

Table raises and lowers  
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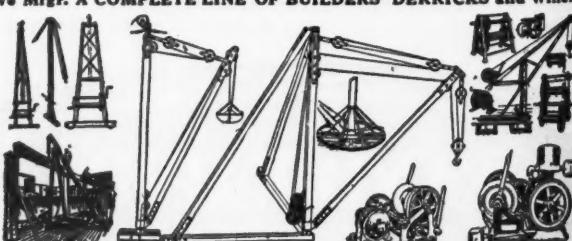
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*MADE IN 20 STYLES*

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Popular where light but no ventilation is required. Large or small standard sizes. Largest sizes require small amount of curb bracing.



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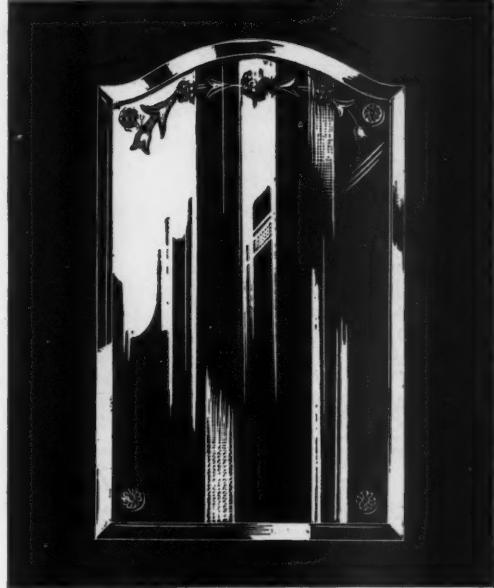
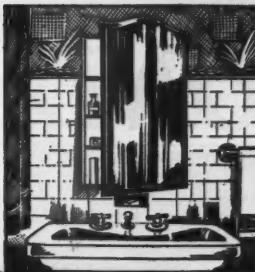
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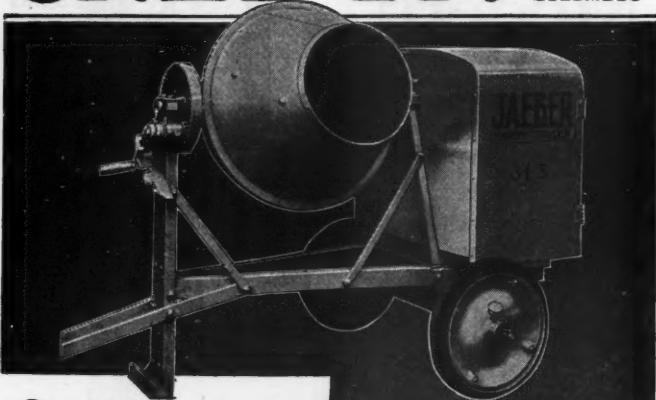
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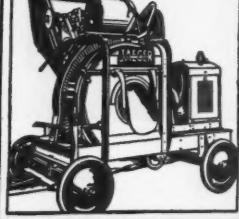


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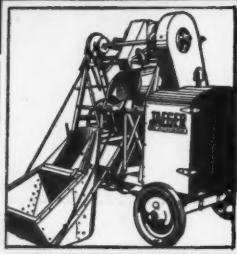
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Trailer—Full  
half bar size



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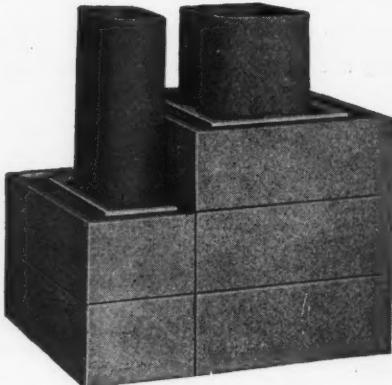
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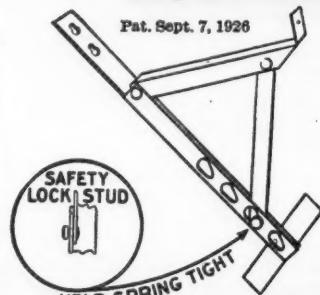
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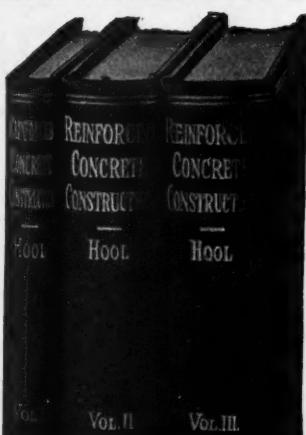
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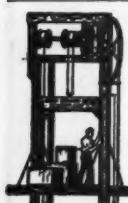
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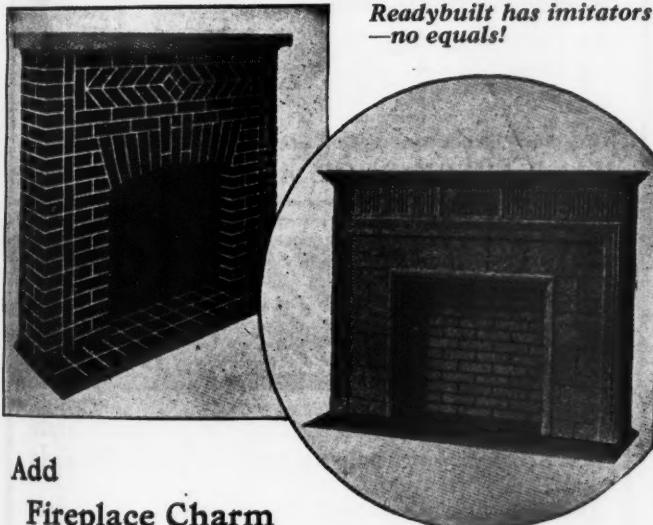
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Planers and Matchers  
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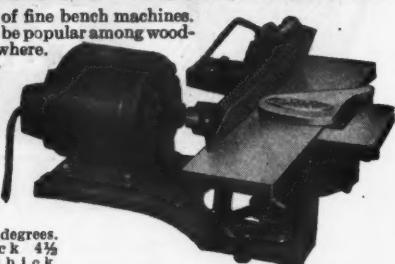
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This sturdy saw is copied after our famous 14-inch band-saw. Has table 10x12 inches tilting 45 degrees. Cuts stock 4½ inches thick. Bronze bearings. Guards, \$8. Price, without motor or guards—

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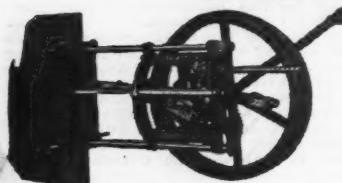
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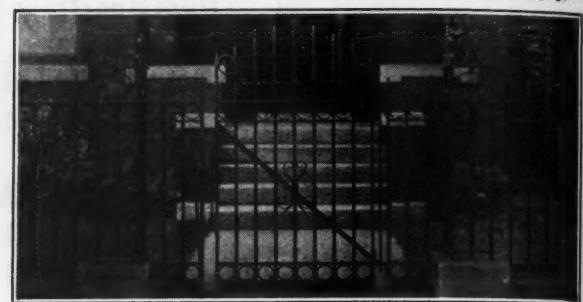
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We are now appointing  
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for the Low Price  
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(Gas attachment if desired  
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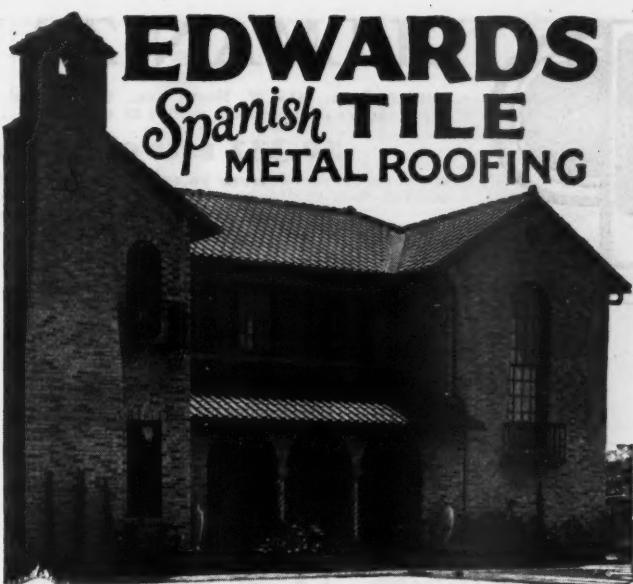
Division

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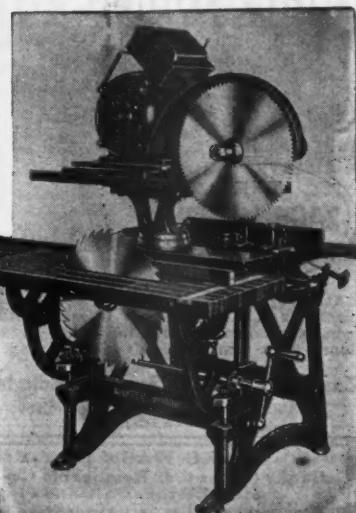
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Because it is built with swinging arbor and tilting table.

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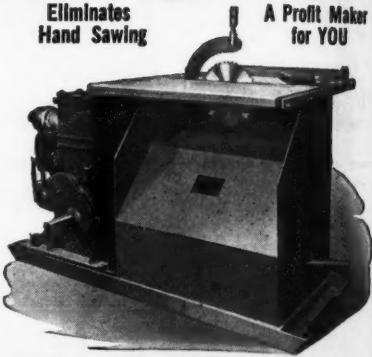
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Because it saves time and labor, thereby producing greater profits.

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Eliminates  
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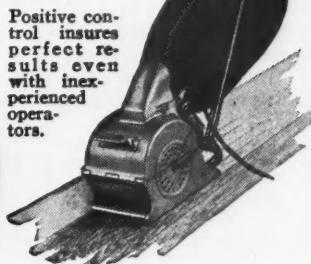
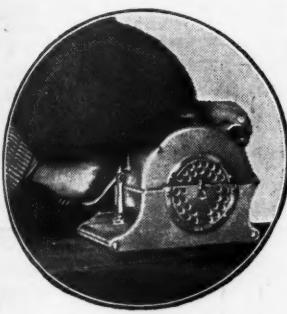


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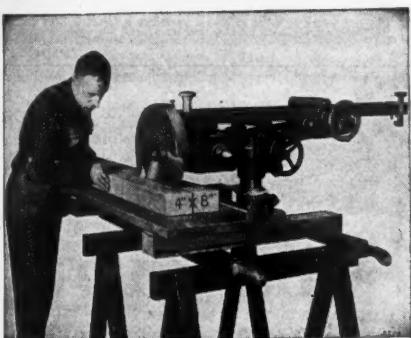
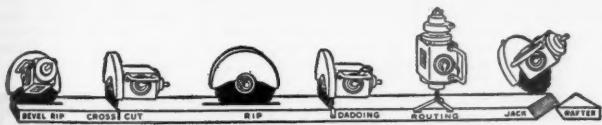


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**Lowest Price!** Size for size, Greyhound prices are far below those of any similar device on market.

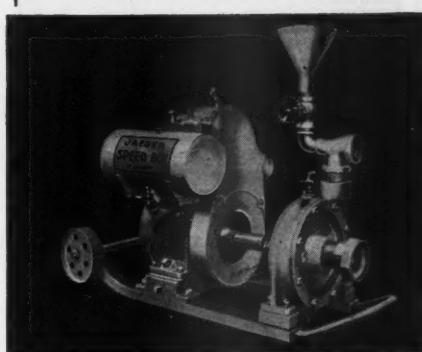
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Improved Hollow Mortising Chisel No. 28  
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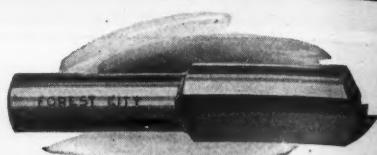
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Metal

Weatherstrips

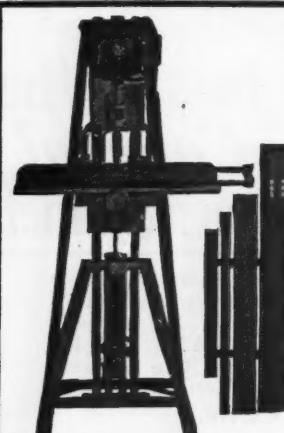
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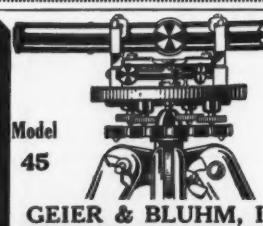
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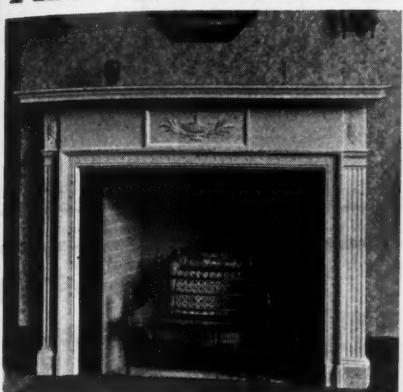
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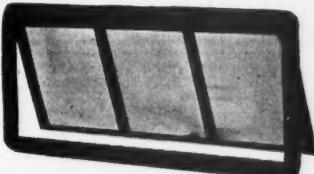
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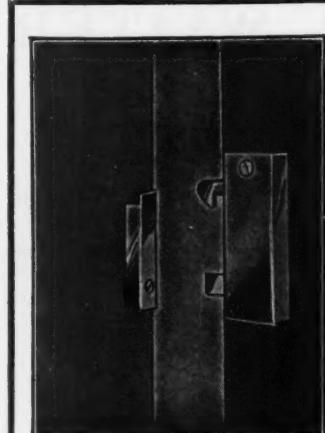
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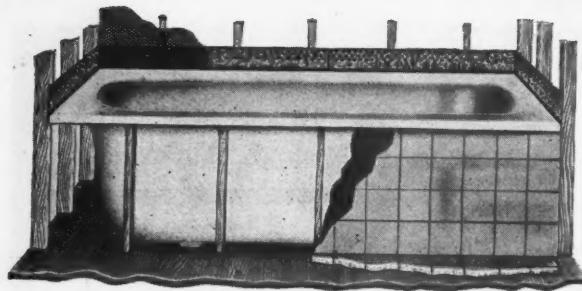


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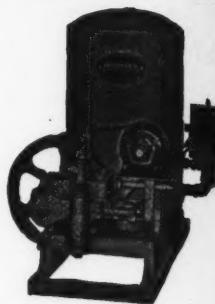
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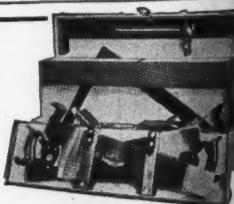
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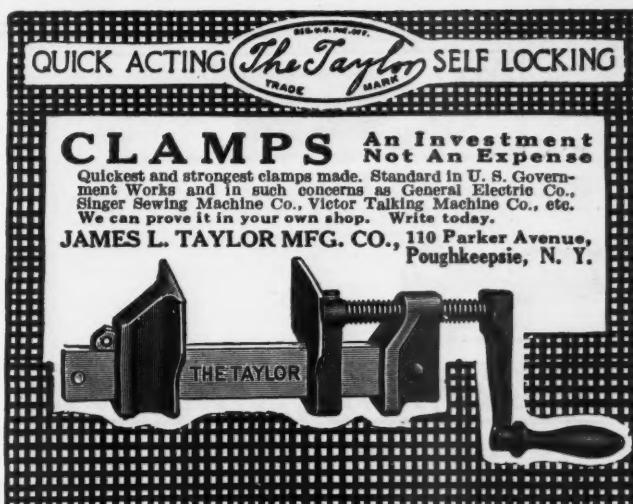
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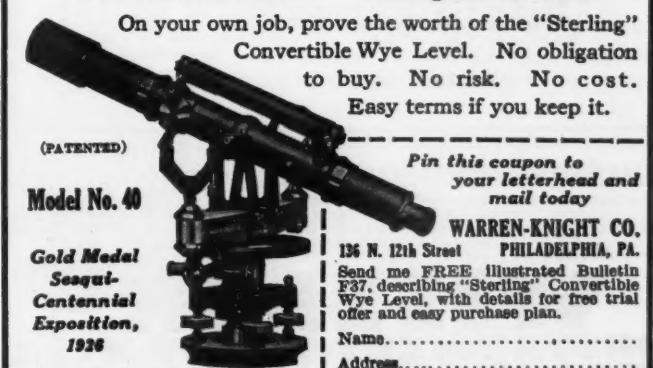
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Exposition,  
1926

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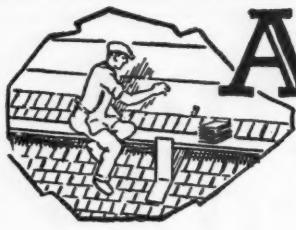


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172

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

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See Pages 48 and 113

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**HOME**  
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**SYSTEM**

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*adds a  
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*Make better  
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**DUMB WAITERS**  
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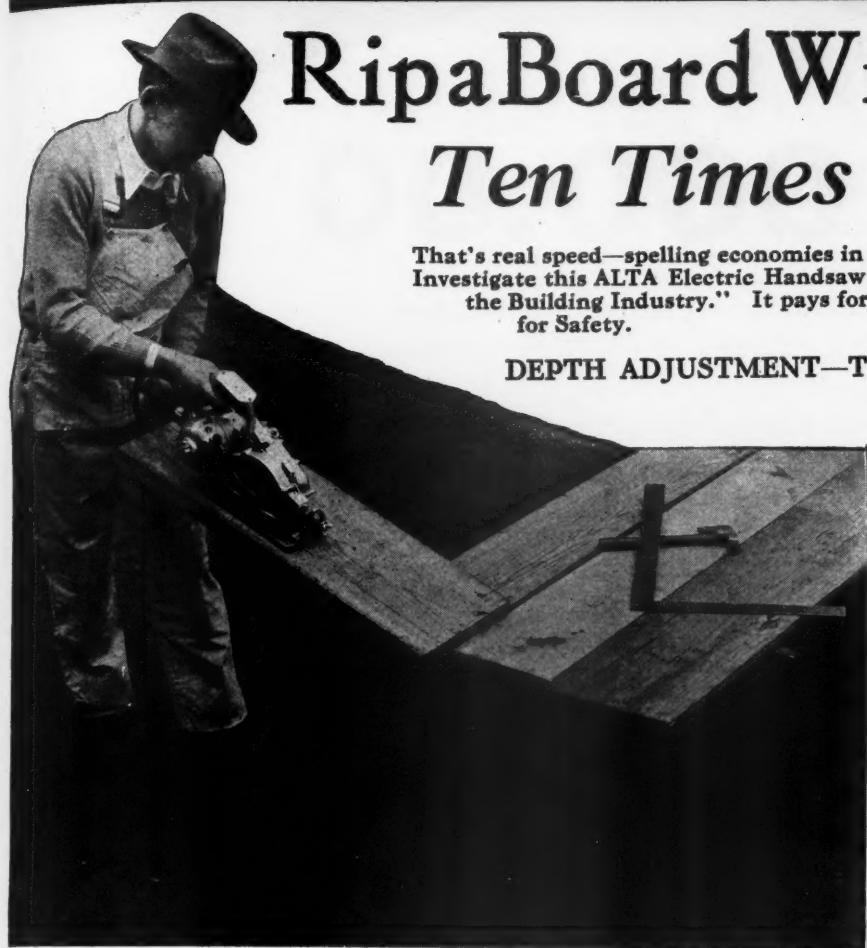
No more racing from one end of the house to the other every time the telephone rings. The Blairs' new house is modern. It has the latest convenience features . . . among them *telephones throughout the house*, so there's one near at hand whatever room they may be in.

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Division of Simonds Saw and Steel Company

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Address.....

City..... State.....

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To Contractors, Plasterers and Lathers  
For the Best Letters of 100 Words or Less—

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*Write the Letter That May Bring you \$500.00 in Cash*

## **NORTH WESTERN EXPANDED METAL Co.**

**1203 Old Colony Building**

**CHICAGO**

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<b>NOTICE TO ADVERTISERS</b>				
<p>Forms in the August Number of the American Builder will close promptly on July 10. New copy, changes and orders for omissions of advertisements must reach our business office, 105 W. Adams St., Chicago, not later than the above date. If new copy is not received by the 10th of the month preceding date of publication the publishers reserve the right to repeat last advertisement on all unexpired contracts.</p>				
AMERICAN BUILDER.				

# *MILCOR Skylights and Ventilators represent the very latest design . . .*



ONE of Milcor's most popular skylights . . . "The Torpedo" Ventilating Type. Effective as a ventilator, and ideal source of light. By a simple controlling mechanism, a movable shutter quickly and easily regulates the amount of ventilation. Equipped with automatic fire-proof feature.

The Milcor line of skylights meets every demand. They are made in a variety of shapes . . . some with the glass laid in putty and others having the Milcor "Puttyless" design.

MILWAUKEE CORRUGATING CO., 1409 Burnham Street, Milwaukee, Wis.

Branches: Chicago, Ill., Kansas City, Mo., La Crosse, Wis.  
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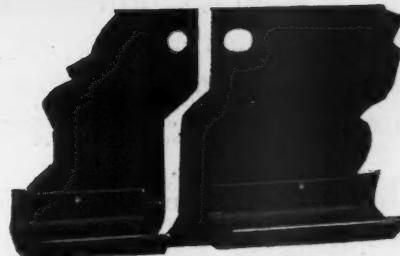
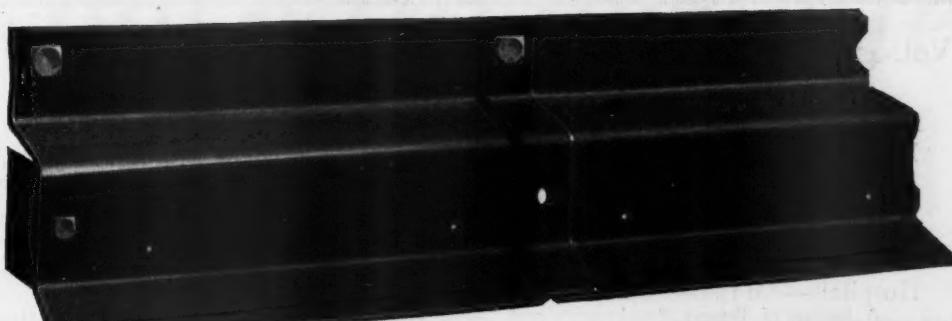
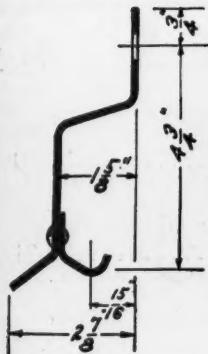
There is also a range of selection in Milcor Ventilators . . . to meet particular needs. Milcor "Nu-Air" Ventilators (see cut away view above) have an unusually large capacity for exhausting impure air. Constant circulation of fresh air is assured. No down draft regardless of height of ventilator and direction of wind. Furnished with either steel or wired glass top. The Alpina Revolving Syphon Ventilator has remarkable efficiency. Sensitive to air currents . . . revolves on brass rust-proof ball-bearings completely enclosed.

# *MILCOR PRODUCTS*

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# GLIDE

## The Original Watershed Track



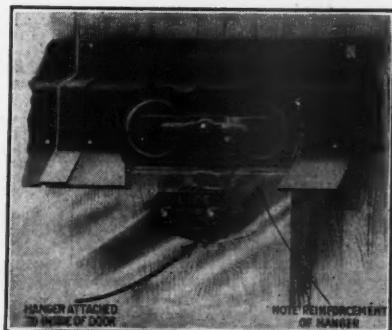
FrantZ "Glide" was the first door track to provide perfect operation under all weather conditions. The very first installations, now in service, over 15 years, are still giving satisfaction.

"Glide" combines wheel tread and cover in one piece to assure easy installation. The runway for the hanger is wide—the tread is shaped to minimize friction. The track is made of heavy gauge, open hearth steel, of tremendous strength and weather resisting qualities. Patented, telescoping joints eliminate the necessity of joint brackets.

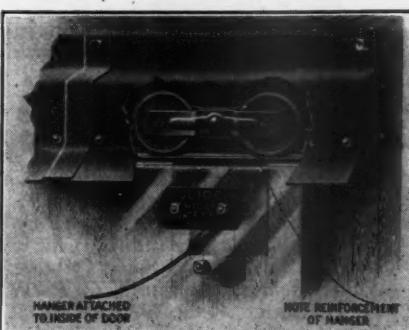
"Glide" Hangers are constructed so that the drop strap bolts on the inside of the door. Thus "blocking-out" of track is unnecessary. The door, regardless of its thickness, is always held the same distance from the building. The door weight is carried directly below the point where the track is fastened to the building, thus assuring strength and ease of operation.



Your Hardware Dealer will gladly demonstrate "Glide" Hangers and Track for you. You will immediately see the convenience and long wearing features of this FrantZ Product. Write Dept. A-829 for details. FrantZ Manufacturing Co., Sterling, Ill.



"Glide" Hanger No. 2 provides easy adjustment for raising doors that wedge when floors raise or building sags. Roller bearing wheels.



"Glide" Hanger No. 1 is easily installed. Hinged drop strap allows door to swing out at bottom when bumped. Roller bearing wheels.

# FRANTZ

TRADE MARK

## Guaranteed Builders Hardware